

UNITED STATES DISTRICT COURT
FOR THE
DISTRICT OF VERMONT

VERMONT FEDERATION OF SPORTSMEN'S)
CLUBS; POWDERHORN OUTDOOR SPORTS)
CENTER, INC.; JPC, INC. (d/b/a BLACK DOG)
SHOOTING SUPPLIES; PAULE DAME; and)
MARSHA J. THOMPSON;)
Plaintiffs,)

v.)

Case No. 2:23-cv-710

MATTHEW BIRMINGHAM, Director of the)
Vermont State Police, in his Official and Personal)
Capacities; CHARITY CLARK, Attorney General)
of the State of Vermont, in her Official and)
Personal Capacities; and SARAH GEORGE,)
State's Attorney for Chittenden County, in her)
Official and Personal Capacities;)
Defendants.)

EXPERT REPORT AND AFFIDAVIT OF JOHN J. DONOHUE

I, John J. Donohue, being duly sworn, hereby depose and state as follows, based on my personal knowledge:

1. I am a citizen of the United States and a Resident of California.
2. I am over 21 years of age.

BACKGROUND AND QUALIFICATION

3. I am the C. Wendell and Edith M. Carlsmith Professor of Law at Stanford Law School. (A copy of my complete cv is attached as Exhibit A.) After earning a law degree from Harvard and a Ph.D. in economics from Yale, I have been a member of the legal academy since 1986. I have previously held tenured positions as a chaired professor at both Yale Law School and Northwestern Law School. I have also been a visiting professor at a number of prominent law schools, including Harvard, Yale, the University of Chicago, Cornell, the University of Virginia, Oxford, Toon University (Tokyo), St. Gallens (Switzerland), Tel Aviv University, and Renmin University (Beijing).

4. For many years, I have been teaching at Stanford a course on empirical law and economics issues involving crime and criminal justice, and I have previously taught similar courses at Yale Law School, Tel Aviv University Law School, the Gerzensee Study Center in Switzerland, and St. Gallen University School of Law in Switzerland. Since gun crime is such an important aspect of American criminal justice, my courses evaluate both the nature of gun regulation in the United States and the impact of gun regulation (or the lack thereof) on crime, which is an important part of my research, about which I have published extensively (as reflected in my c.v.). I have also consistently taught courses on law and statistics for three decades.

5. I am a Research Associate of the National Bureau of Economic Research, a Senior Fellow in the Stanford Institute for Economic Policy Research (SIEPR), and an elected member of the American Academy of Arts and Sciences. I was a Fellow at the Center for Advanced Studies in Behavioral Sciences in 2000-01 and served as the co-editor (handling empirical articles) of the *American Law and Economics Review* for six years. I have also served as the President of the American Law and Economics Association and as Co-President of the Society of Empirical Legal Studies.

6. From October 2011 – December 2018, I served on the Committee on Law and Justice of the National Research Council (“NRC”), which “reviews, synthesizes, and proposes research related to crime, law enforcement, and the administration of justice, and provides an intellectual resource for federal agencies and private groups.” (See <http://www7.national-academies.org/claj/> online for more information about the NRC.)

7. I filed an expert declaration in each of two cases involving a National Rifle Association (“NRA”) challenge to city restrictions on the possession of large-capacity magazines: *Fyock v. City of Sunnyvale*, United States District Court (N.D. Cal.), January 2014; *Herrera v. San Francisco*, United States District Court (N.D. Cal.), January 2014.

8. I also filed an expert declaration in a case involving an NRA challenge to Maryland’s restrictions on assault weapons and large-capacity magazines: *Tardy v. O’Malley*, United States District Court (District of Maryland), February 2014.

9. I filed (June 1, 2017) an expert declaration in a case involving a challenge to California’s restrictions on carrying of weapons in public in *Flanagan v. Becerra*, United States District Court (C.D. Cal.), Case No. 2:16-cv-06164-JAK-AS.

10. I filed expert declarations on June 4, 2017 and June 16, 2017 in two separate cases challenging California's ban on the possession of large-capacity magazines: *Duncan v. Becerra*, United States District Court (S.D. Cal.), Case No. 17-cv-1017-BEN-JLB and *Weise v. Becerra*, United States District Court (E.D. Cal.), Case No. 2:17-cv-00903-WBS-KJN. I filed a supplemental declaration in *Duncan* (now *Duncan v. Bonta*) on November 8, 2022.

11. I filed an expert declaration, and provided expert testimony, in a case involving a challenge to New Jersey's restrictions on large-capacity magazines in *Association of New Jersey Rifle & Pistol Clubs, Inc. v. Grewal*, No. 3:18-cv-10507-PGS-LHG (D.N.J.), August 2018. In October 2018, I also filed an affidavit in a case involving a challenge to Vermont's restrictions on large-capacity magazines. *Vermont Federation of Sportsmen's Clubs v. Birmingham*, Superior Court, Washington Unit, Docket No. 224-4-18 Wncv.

12. I filed an expert declaration in *Chambers v. City of Boulder*, Case No. 2018CV30581, in the District Court of Boulder County in September 2020, involving a challenge to the City of Boulder's restrictions on assault weapons.

13. At the request of the United States Department of Justice, I filed an expert declaration in July 2020 and testified at trial in April 2021 in a case arising out of the Sutherland Springs mass shooting that killed 26 in November 2017: *Holcombe, et al. v. United States*, Case No. 5:18-CV-555-XR (W.D. Tex.). On December 9, 2020, I submitted an expert report on behalf of the City of San Francisco in a wrongful conviction lawsuit, *Caldwell v. City of San Francisco*, Case No. 12-cv-1892 DMR, United States District Court, Northern District of California, Oakland Division.

14. I was the main author of the Brief of Amici Curiae Social Scientists and Public Health Researchers in Support of Respondents, which was submitted to the United States Supreme Court on September 21, 2021 in *New York State Rifle & Pistol Association v. Bruen*, Case No. 20-843.

15. On January 24, 2022, I submitted an expert declaration in *Worth v. Harrington*, a lawsuit in the District of Minnesota (Case No. 21-cv-1348) challenging how Minnesota regulates the concealed carry of firearms by individuals aged 18 to 20. I was deposed in this case on March 28, 2022.

16. On May 31, 2022, I submitted an expert declaration in *Meyer v. Raoul*, a lawsuit in the Southern District of Illinois (Case No. 21-cv-518-SMY) challenging how Illinois regulates the concealed carry of firearms by individuals aged 18 to 20.

17. On September 14, 2022, I submitted an expert declaration in *Viramontes v. The County of Cook*, a lawsuit in the Northern District of Illinois (Case No. 1:21-cv-04595) challenging the Blair Holt Assault Weapons Ban enacted by Cook County, Illinois in 2006.

18. On October 13, 2022, I submitted an expert declaration in *Miller v. Bonta*, a lawsuit in the Southern District of California (Case No. 3:19-cv-01537-BEN-JLB) challenging how California regulates assault weapons. This report supplemented my earlier work in that case which involved submission of an expert declaration on January 23, 2020, followed by testimony on October 23, 2020 during an evidentiary hearing on the Plaintiffs' motion for a preliminary injunction.

19. On January 6, 2023, I submitted an expert declaration in *Rupp v. Bonta*, a lawsuit in the Central District of California (Case No. 8:17-cv-00746-JLS-JDE) challenging how California regulates assault weapons

20. On January 6, 2023, I submitted an expert declaration in *State of Vermont v. Misch*, Criminal Division, Docket No. 173-2-19 Bncr in a case challenging magazine size restrictions for handguns and long guns.

21. On January 26, 2023, I submitted two expert declarations: 1) in *NAGR v. Lamont*, a case challenging Connecticut's restrictions on assault weapons and limits on magazine size, and 2) in *NAGR v. Campbell*, Civil Action No. 1:22-cv-11431-FDS, U.S. District Court for the District of Massachusetts, a similar case involving the comparable restrictions in Massachusetts.

22. Finally, on February 27, 2023, I submitted an expert report in *Herrera v. Kwame Raoul, et al.*, 23 CV 0532, in the U.S. District Court for the Northern District of Illinois, Eastern Division. This case also involved a challenge to the restrictions in Illinois on assault weapons and magazine size.

SUMMARY OF CONCLUSIONS

23. It is a sound, evidenced-based, and longstanding harm-reducing strategy virtually uniformly embraced throughout the developed world for governments to place constraints on the harm that weapons can inflict. Restrictions on the size of large-capacity magazines (LCMs),

defined as an ammunition feeding device with the capacity to hold more than 10 rounds of ammunition, sit comfortably in this appropriate regulatory approach and can be expected to reduce deaths and injury from gun violence. Similarly, substantial empirical evidence illustrates that waiting periods prior to the purchase of weapons, such as those enacted by Vermont, will reduce suicides – particularly among young adults – and would be expected to reduce the risk of the type of episodes seen in recent years of enraged individuals buying firearms on the way to commit mass violence and other criminal acts.

24. Restrictions on the size of LCMs would be expected to have little or no effect on the ability of individuals to possess weapons for self-defense but should have a restraining impact on the effectiveness of those who have the criminal intent to kill as many individuals as possible. The restrictions imposed by the state of Vermont that are challenged in this litigation are well-tailored to limit the behavior of criminals engaging in the most dangerous forms of violent criminal behavior, and at the same time are likely to have little or no impact on the defensive capabilities of law-abiding citizens.

25. The problem of public mass shootings in the United States is a serious and worsening national problem that imposes substantial burdens on the American public far beyond the growing numbers of dead and injured victims that are besieged every year. Since so many of these shootings are committed (or made possible) by previously “law-abiding” citizens with no basis under current law to prevent them from possessing firearms, and since such a large proportion of the mass shooters die in the course of their deadly massacres, improved background checks and increased criminal penalties alone cannot adequately address this growing problem. Moreover, the empirical evidence indicates that another possible policy response – allowing increased gun carrying by the untrained public – rarely generates any benefit by stopping public mass shootings and is indeed self-defeating since it generates substantial increases in violent crime.¹

¹ See Donohue, John, Abhay Aneja, and Kyle Weber, 2019, “Right-to-Carry Laws and Violent Crime: A Comprehensive Assessment Using Panel Data and a State-Level Synthetic Control Analysis,” *Journal of Empirical Legal Studies*, <https://onlinelibrary.wiley.com/doi/full/10.1111/jels.12219>. The amicus brief submitted to the United States Supreme Court on behalf of “Social Scientists and Public Health Researchers in Support of Respondents” in *New York State Rifle & Pistol Association v. Bruen*, September 21, 2021, further discusses the evidence that right-to-carry laws increase violent crime, citing 14 studies that have so found in the last five years. Since that brief was submitted, three additional empirical studies have confirmed the conclusion that increased gun carrying leads to higher violent crime: Van Der Wal, W. M. (2022). Marginal Structural Models to Estimate Causal Effects of Right-

26. Indeed, gun massacres fell substantially during the ten years of the federal assault weapons ban, which curtailed the proliferation of both assault weapons and high-capacity magazines, and then rose sharply when the ban was lifted in 2004. FBI data show that the problem of active shooters inflicting mayhem on the public has been rising substantially since the end of the federal ban. State laws restricting assault weapons and high-capacity magazines have also been shown to reduce mass shooting deaths and overall casualties.

27. The important point to note in considering the constitutionality of restrictions on high-capacity magazines is that when the problem of mass shootings began to emerge in the United States, state and federal governments began responding to this growing menace with lawful, appropriate, and effective restrictions on the type of weaponry that both facilitated mass shootings and was attractive to mass shooters. As we learned from the repeal of the federal assault weapons ban, any backsliding on restraints that promote the health, safety, and freedom of Americans would be costly in lives and in devastating firearm injuries.

28. The empirical evidence on laws requiring waiting periods for transfers of firearms indicates that waiting periods substantially reduce suicides – particularly for those under the age of 35. This is a noteworthy finding given the increasing rates of suicide over the last twenty years, particularly among the young. There are also reasons to believe that waiting periods can reduce the risk of at least some mass shootings, as discussed below.

29. At the same time, as events across the United States have painfully established, disturbed individuals can and do take advantage of lax gun laws to buy firearms on the way to commit their crimes, and there is every reason to believe that waiting periods similar to those imposed by Vermont can reduce the likelihood of such episodes.

DISCUSSION

30. By a wide margin, most Americans do not own guns, and only a subset of Americans who do own guns also possess long-gun magazines that hold more than 10 rounds or handguns that hold more than 15 rounds.

to-Carry Laws on Crime. *Statistics and Public Policy*, 9(1):163–174.; Doucette, M. L., Ward, J. A., McCourt, A. D., Webster, D., and Crifasi, C. K. (2022). “Officer-Involved Shootings and Concealed Carry Weapons Permitting Laws: Analysis of Gun Violence Archive Data, 2014–2020.” *Journal of Urban Health*, pages 1–12.; Donohue, J. J., Cai, S. V., Bondy, M. V., and Cook, P. J. (2022). “More Guns, More Unintended Consequences: The Effects of Right-to-Carry on Criminal Behavior and Policing in US Cities.” Working paper no. 30190, National Bureau of Economic Research.

31. 70 percent of all American adults do not own any firearm according to recent survey data.² Moreover, many of the 30 percent of Americans who do own firearms only possess shotguns, hunting rifles, and revolvers and do not possess assault weapons or firearms equipped with large-capacity magazines of the type covered by the federal assault weapons ban from 1994-2004.

32. While I note below the serious problems with the survey data of William English on which the Plaintiff's heavily rely, it is worth noting that even his data shows the relative rarity of ownership of large-capacity magazines. English tells us that 52 percent of *gun owners* have *never* possessed any such magazine, so this means that *at least* 85.6 percent of Americans have *never* possessed any such magazine.³ Americans' behavior overwhelmingly reveals that they believe large-capacity magazines are not essential to their safety or important for their self-defense.

33. Indeed, even English states that "in the vast majority of defensive gun uses (81.9%), the gun was not fired. Rather, displaying a firearm or threatening to use a firearm (through, for example, a verbal threat) was sufficient. This suggests that firearms have a powerful deterrent effect on crime, which, in most cases, does not depend on a gun actually being fired or an aggressor being injured." *Id.* at p.14. While, as noted below, English's work substantially exaggerates the prevalence of defensive gun use, even he recognizes that defensive gun use rarely involves the firing of the gun at all, underscoring the overwhelming irrelevance of large-capacity magazines for lawful purposes.

34. National surveys over the last decade consistently confirm that a strong majority of Americans support bans on LCMs and assault weapons. A Pew Research Center survey released on October 18, 2018 showed that 67 percent of Americans favored bans on assault weapons and on high-capacity magazines.⁴ A follow-up Pew survey, based on interviews from September 3 –

² This is the finding of a June 2021 survey of 10,606 adults by the Pew Research Center.

<https://www.pewresearch.org/fact-tank/2021/08/04/wide-differences-on-most-gun-policies-between-gun-owners-and-non-owners-but-also-some-agreement/>.

³ Bizarrely, English did not ask gun owners if they currently possessed a large-capacity magazine but only if they ever did. In other words, if 100 individuals purchased a large-capacity magazine and they all sold them to 100 others, English would count twice as many individuals as those who actually currently possess these magazines. See the following quote from English's survey: "Note that the question asked whether respondents have ever owned such magazines and how many such magazines they have owned, so these estimates should be interpreted as an upper bound on current ownership given that some magazines may have been resold." English at 24.

⁴ Pew Research Center, "Gun Policy Remains Divisive, But Several Proposals Still Draw Bipartisan Support,"

15, 2019, showed that 69 percent of Americans supported a ban on assault weapons.⁵ Another Pew survey, conducted from April 5-11, 2021 among 5,109 adults, found that 63 percent of Americans supported a ban on assault weapons.⁶

35. Similarly, American adults consistently support bans on such high-capacity magazines, because it is widely recognized that such accoutrements threaten public security and have little utility for personal defense. A January 2013 New York Times/CBS News poll of 1,110 adults nationwide found that nearly two-thirds of Americans overall favored a ban on large-capacity magazines.⁷ A national survey by Pew Research Center, conducted from April 5-11, 2021 among 5,109 adults, found that almost two-thirds of Americans -- 64 percent -- supported a ban on magazines with greater than 10 rounds. Another Pew survey of 5,115 U.S. adults, conducted from June 5 to June 11, 2023, similarly found that 66 percent of Americans supported a ban on magazines with greater than 10 rounds.⁸

The Growing Problem of Public Mass Shootings

36. Although the long-term (pre-pandemic) trend in overall crime over the last 25 years has been benign, the opposite is true for the trend in public mass shootings since the end of the Federal Assault Weapons Ban in 2004. As the Third Circuit stated in upholding New Jersey's restrictions on high-capacity magazines, "plaintiffs attempt to discount the need for [governmental weaponry restrictions] by describing mass shootings as rare incidents" gives insufficient weight "to the significant increase in the frequency and lethality of these incidents." *Association Of New Jersey Rifle and Pistol Clubs v. Attorney General of New Jersey* (3d Cir., December 5, 2018).

October 18, 2018, <http://www.people-press.org/2018/10/18/gun-policy-remains-divisive-but-several-proposals-still-draw-bipartisan-support/>. This survey had 5307 respondents and was conducted from September 24 through October 7, 2018.

⁵ Katherine Schaeffer, "Share of Americans who favor stricter gun laws has increased since 2017," <https://www.pewresearch.org/fact-tank/2019/10/16/share-of-americans-who-favor-stricter-gun-laws-has-increased-since-2017/> (October 16, 2019).

⁶ <https://www.pewresearch.org/politics/2021/04/20/amid-a-series-of-mass-shootings-in-the-u-s--gun-policy-remains-deeply-divisive/>.

⁷ Jennifer Steinhauer, "Pro-Gun Lawmakers Are Open to Limits on Size of Magazines," *N.Y. Times* (Feb. 18, 2013), http://www.nytimes.com/2013/02/19/us/politics/lawmakers-look-at-ban-on-high-capacity-gun-magazines.html?_r=1&.

⁸ Katherine Schaeffer, "[Key facts about Americans and guns](#)," Pew Research Center, September 13, 2023.

37 According to a report of the Congressional Research Service, there were an average of 2.7 public mass shootings per year in the 1980s, rising to an average of 4.5 events per year from 2010 to 2013.⁹ Since then, things have only gotten worse.

38. Writing in May 2018, Louis Klarevas, an Associate Lecturer of Global Affairs at the University of Massachusetts–Boston, noted:

“Last week's school shooting in Texas marks a new milestone in American history. It's the first time we have ever experienced four gun massacres resulting in double-digit fatalities within a 12-month period. In October 2017, [60] were killed at a concert in Las Vegas. A month later, 26 were killed at a church in Sutherland Springs, Texas. Earlier this year, 17 people lost their lives at a high school in Parkland, Fl. And to this list we can now add the 10 people who lost their lives at a high school in Santa Fe, Texas.”¹⁰

Sadly, the mayhem did not let up in 2019. In May of that year, 12 were killed in Virginia Beach by a shooter equipped with high-capacity magazines. In August 2019, a gunman again took advantage of the enhanced lethality of high-capacity magazines to kill 23 people in El Paso, Texas. Just 13 hours later, rapid action by police stopped a similarly equipped mass shooter in Dayton, Ohio, limiting the body count to nine killed and 27 wounded. That same month in Odessa, Texas, 7 were killed and 25 were wounded – again facilitated by high-capacity magazines.

39. In response to the growing list of gun tragedies, President Obama signed into law in 2013 the Investigative Assistance for Violent Crimes Act of 2012, which granted authority to the U.S. Attorney General to assist in the investigation of “violent acts and shootings occurring in a place of public use” and in the investigation of “mass killings and attempted mass killings.”¹¹

40. To better understand the nature of these threats, the Federal Bureau of Investigation (FBI), in 2014, initiated a study of “active shooter” incidents designed to identify the prevalence

⁹ William J. Krouse & Daniel J. Richardson, Cong. Research Serv., R44126, Mass Murder with Firearms: Incidents and Victims, 1999-2013, at 14-15 (2015), <http://fas.org/srg/crs/misc/R44126.pdf>; Mark Follman, “Yes, Mass Shootings Are Occurring More Often,” *Mother Jones* (Oct. 21, 2014, 5:05 am), <http://www.motherjones.com/politics/2014/10/mass-shootings-rising-harvard>.

¹⁰ Louis Klarevas, “After the Santa Fe massacre, bury the 'good guy with a gun' myth: Armed staffers won't deter shooters or keep kids safe,” *New York Daily News*, May 22, 2018, <http://www.nydailynews.com/opinion/santa-fe-massacre-bury-good-guy-gun-myth-article-1.4003952>.

¹¹ Blair, J. Pete, and Schweit, Katherine W. (2014). “A Study of Active Shooter Incidents, 2000 - 2013.” Texas State University and Federal Bureau of Investigation, U.S. Department of Justice, Washington D.C. 2014, at 4.

of and trend in these events, how they unfolded, what brought them to an end, and other details that would be of assistance to law enforcement (Id.).¹²

41. In 2018, the FBI announced that the active shooter problem in the United States was growing ominously, as illustrated in Figure 1 below.¹³ At that time, I stressed that this problem would only be getting worse if significant action was not taken to address it. Sadly, my predictions, based on the growing lethality of weaponry in the United States, have been fulfilled. As bad as the active shooter problem looked in 2018, it is considerably worse today, as seen in the same FBI active shooter data now extended through 2021 in Figure 2. In 2021, the 61 active shooter incidents were more than double the previous high of 30 in 2017!

42. The steep upward trend in the FBI data charting the growth in active shooter incidents is unmistakable. Not surprisingly, the number of mass shootings has increased sharply following the termination of the federal assault weapons ban in 2004. In that year, the FBI counted 4 active shooter incidents in which 14 died. In 2021, the FBI counted 61 active shooter incidents resulting in 243 casualties (not including the shooters).¹⁴

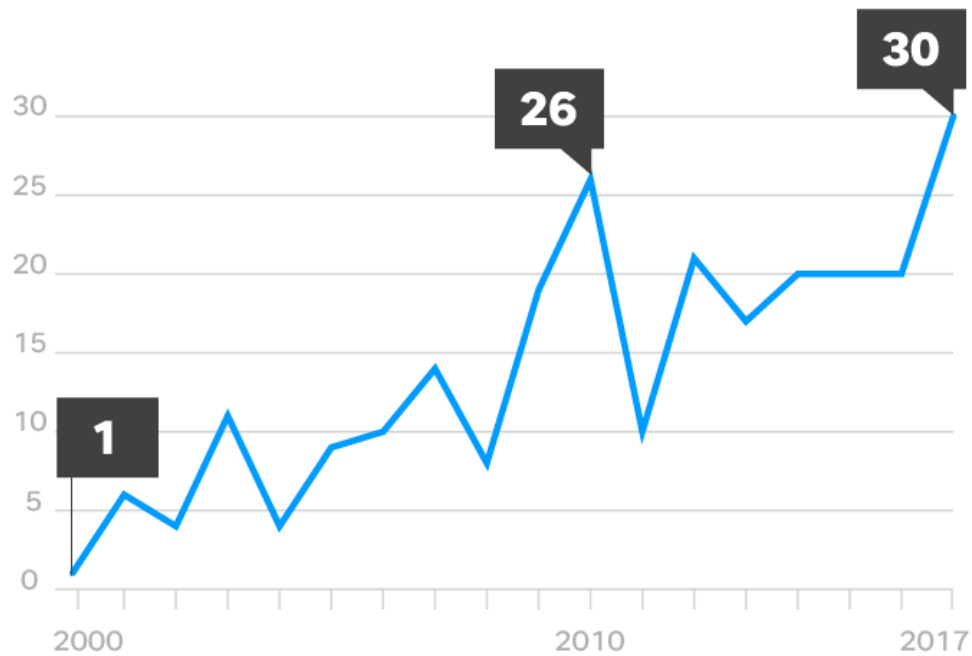
¹² Note that if an active shooter bent on inflicting widespread casualties is stopped quickly enough, this incident would not appear in a count of “public mass shootings” that required, say, at least four individuals to be shot and killed, not counting the shooter (which is a standard, although not the only, definition of a mass shooting).

¹³ Christal Hayes, “Most shooters got their guns legally, didn’t have diagnosed mental illness, new FBI report says,” *USA TODAY*, <https://www.usatoday.com/story/news/2018/06/20/fbi-most-active-shooters-dont-have-mental-illness-get-guns-legally/718283002/>.

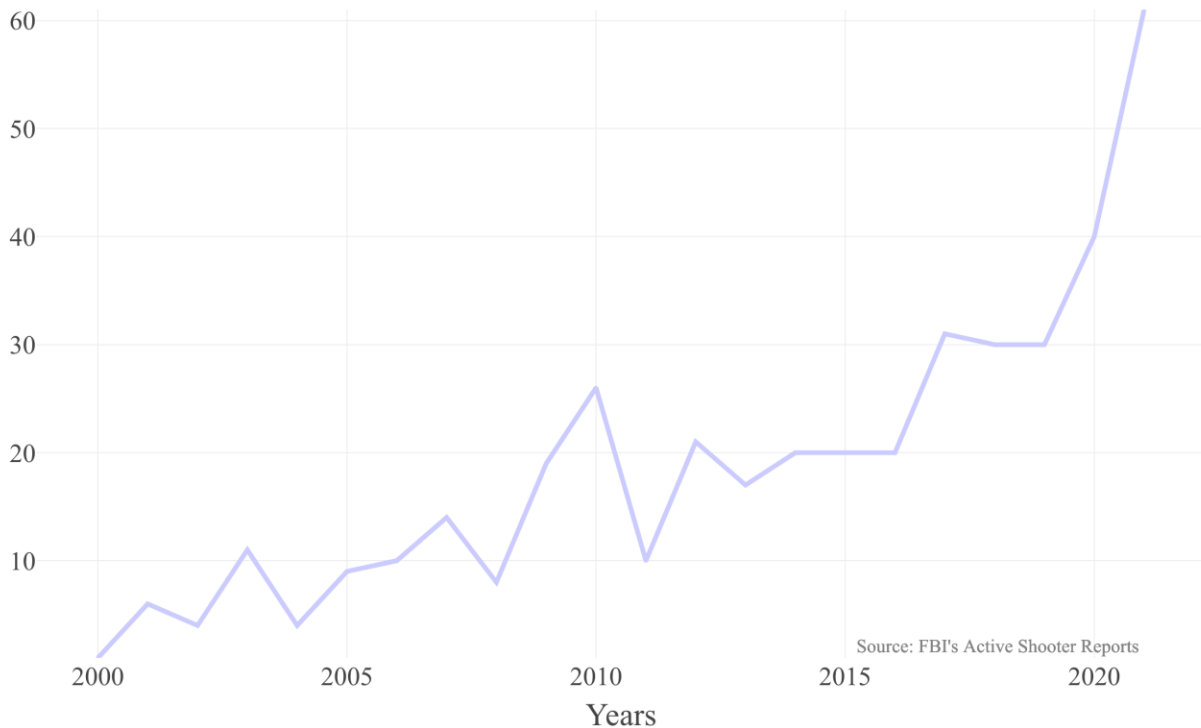
¹⁴ FBI, “Active Shooter Incidents in the United States in 2021,” <https://www.fbi.gov/file-repository/active-shooter-incidents-in-the-us-2021-052422.pdf/view>.

Figure 1

Active shooter incidents on the rise, with 2017 topping all years since 2000.



SOURCE FBI data and the FBI's report on active shooter incidents in the United States in 2016 and 2017

Figure 2**Active Shooter Incidents, 2000-2021**

43. Just since 2021, the United States has experienced numerous, devastating mass shootings with firearms equipped with high-capacity magazines, including the March 16, 2021 Atlanta spa shootings (8 killed); the March 22, 2021 shooting at King Soopers supermarket in Boulder, Colorado (10 killed); the April 15, 2021 shooting at an Indianapolis FedEx warehouse (8 killed); the May 26, 2021 shooting at a transportation authority facility in San Jose, California (9 killed);¹⁵ the May 14, 2022 supermarket shooting in Buffalo, New York (10 killed); the May 24, 2022 shooting at Robb Elementary School in Uvalde, Texas (19 children and 2 adults killed); the July 4, 2022 shooting at a Fourth of July parade in Highland Park, Illinois (7 killed); the November 20, 2022 shooting in a Colorado Springs nightclub, in which five people were killed and 17 wounded, and the November 22, 2022 shooting at a Virginia Walmart that left 7 dead.

44. The October 2023 mass shooting in Lewiston, Maine once again showed the value of large-capacity magazines in facilitating a large death toll, leaving 18 people dead and 13 more

¹⁵ Woolfolk, John; Salonga, Robert; Savidge, Nico; Baron, Ethan (May 27, 2021). "San Jose shooting: VTA gunman was 'highly disgruntled,' had 32 illegal high-capacity magazines," *East Bay Times*. Walnut Creek, California.

injured.¹⁶ In January 2023, a shooter using an extended large-capacity magazine was able to fire off 42 rounds at a dance studio in Monterey Park, California, killing 11 and wounding 9.¹⁷ A March 2023 shooting at a Nashville elementary school involved 152 shots fired, killing six, including three 9-year-old children.¹⁸ In May 2023, a neo-Nazi arrayed this weaponry to kill 8 and wound 7 at a shopping mall in Allen, Texas.¹⁹

45. These mortality and injury counts do not capture the full harm from the countless people injured, both physically and emotionally, and the devastation inflicted on the communities in which these mass shootings occurred. For example, during the July 4, 2022 mass shooting in Highland Park, Illinois, an 8-year-old boy was paralyzed after a bullet severed his spinal cord.²⁰

46. The consequences for the shooter are also severe. Tellingly, the 18-year-old Buffalo shooter, who killed 10 using the same weapon as the Sandy Hook shooter—a Bushmaster XM-15 semiautomatic rifle—had written, “I am well aware that my actions will effectively ruin my life. If I’m not killed during the attack, I will go to prison for an inevitable life sentence.”²¹

47. Assault weapons also pose particular dangers and problems to law enforcement that are magnified when used with high-capacity magazines. Because of the types of rounds typically fired by assault weapons as well as the muzzle velocities they tend to have, assault weapons are “capable of penetrating the soft body armor customarily worn by law enforcement.”²² The ability to fire rapidly also allows criminals to more effectively engage with responding police

¹⁶E.J. Dionne Jr., [“How two gun-friendly senators are turning the tide on gun safety,”](#) *The Washington Post*, December 3, 2023.

¹⁷ Nouran Salahieh, Stella Chan and Eric Levenson, [“11 victims of Monterey Park mass shooting ranged in age from 57 to 76 years old, coroner says,”](#) *CNN*, January 25, 2023.

¹⁸ Adeel Hassan and Emily Cochrane, [“What We Know About the Nashville School Shooting,”](#) *The New York Times*, September 13, 2023.

¹⁹ Steve Gorman, [“Gunman who killed 8 at Texas shopping mall had 'neo-Nazi ideation,' officials say,”](#) *Reuters*, May 9, 2023.

²⁰ NBC Chicago, *Cooper Roberts, Boy, 8, Paralyzed in Highland Park Shooting, Continues to Push Forward, Mother Says*, Dec. 19, 2022, <https://www.nbcchicago.com/news/local/cooper-roberts-8-year-old-paralyzed-in-highland-park-shooting-continues-to-push-forward-mother-says/3026490/>.

²¹ Ashley Parker, Tyler Pager, and Colby Itkowitz, [“From Sandy Hook to Buffalo and Uvalde: Ten years of failure on gun control,”](#) *Washington Post*, May 22, 2022; Jesse McKinley, Jonah E. Bromwich, Andy Newman and Chelsia Rose Marcus, [“Buffalo Suspect Planned Attack for Months, Online Posts Reveal,”](#) *The New York Times*, May 16, 2022; Craig Whitlock, David Willman, and Alex Horton, [“Massacre Suspect Said He Modified Bushmaster Rifle to Hold More Ammunition,”](#) *Washington Post*, May 15, 2022.

²²Brown Decl. ¶ 23, *Kolbe v. O'Malley*, 42 F. Supp. 3d 768 (D. Md. 2014).

officers, even from a significant distance.²³ Empirical research by the Violence Policy Center shows that “one in five law enforcement officers slain in the line of duty was killed with an assault weapon,” despite the relative rarity of assault weapon use in crime in general.²⁴ Christopher S. Koper et al. find that assault weapons, virtually all of which were assault rifles, “accounted for 13.2% of the firearms used in [police murders]” from 2009-2013 (note that this excludes cases involving the officer’s own firearm).²⁵ Many law enforcement officers and agencies report that the possibility of encountering criminals with assault weapons necessitates that they spend a great deal of time and resources preparing for such encounters.²⁶ Both the February 2018 mass killing at Parkland High School and the May 2022 mass killing in Uvalde, Texas – where police delayed entering the school during a shooting – vividly underscored how police responses to violence are impaired when the officers are confronted by a shooter armed with such deadly firepower.

The Importance of the Instrumentality Effect

48. Decades of research has shown that there is a considerable variation in the survivability of a gun assault depending on the instrumentality employed. A seminal 1972 study by UC Berkeley Professor Frank Zimring found “that the outcome of gun assaults had a large random element, and that the power of the firearm was one systematic factor influencing the likelihood that an individual with a gunshot injury would survive.”²⁷

49. Of course, Zimring’s conclusion—that switching to less deadly firearm options could reduce firearm deaths—applies directly to bans on assault weapons and high-capacity magazines. The greater the lethality of the weapon and the more bullet wounds it could inflict, the more killed and injured in active shooter incidents. This was clearly illustrated in a study for the *Journal of the American Medical Association* that examined deaths and injuries documented in

²³Kyes Decl. ¶ 15-17, *Worman v. Healy*, 293 F. Supp. 3d 251 (D. Mass. 2018).

²⁴Violence Policy Center, *Officer Down: Assault Weapons and the War on Law Enforcement*, May 2003, available at <http://www.vpc.org/studies/officer%20down.pdf> (last visited Oct. 12, 2018) at 5.

²⁵Christopher S. Koper et al. 2017, Finding at 317.

²⁶Brady Center to Prevent Gun Violence 2008 at 4-6.

²⁷ The description of the Zimring study comes from Braga, Anthony A., and Philip J. Cook. (2018). “[The Association of Firearm Caliber With Likelihood of Death From Gunshot Injury in Criminal Assaults](#),” *JAMA Network Open*, which powerfully confirms that more lethal weaponry directly leads to more homicides.

the FBI Active Shooter Database from 2000-2017.²⁸ The authors found that deaths and injuries were substantially higher for the 61 active shooter incidents using a semiautomatic rifle versus the 187 episodes using some other firearm. Specifically, in the incidents in which the shooter employed a semi-automatic rifle, the average number killed or wounded was 9.72 versus only 5.47 killed or wounded when other firearms were used. (Note that the authors excluded the horrific Las Vegas shooting from the numbers above, since that case was so extreme, with 60 killed and almost 500 wounded—all with semi-automatic rifles equipped with large-capacity magazines.)

50. Indeed, if one looks at the deadliest acts of intentional mass violence in the United States since 9/11, they all share two features: They all occurred after the lapse of the federal restrictions on magazine size in September of 2004, and the shooters all used firearms equipped with large-capacity magazines. *See* Table 1 below.

51. Alongside the well-documented increase in overall mass shootings in the United States, there has been an equally dramatic rise of these events in school settings.²⁹ Indeed, the authors of a study on mass school shootings – written before the May 2022 shooting at Robb Elementary School in Uvalde, Texas left 21 dead – concluded in 2018 that “More people have died or been injured in mass school shootings in the US in the past 18 years than in the entire 20th century.”³⁰ Furthermore, the impact of the elevated stress experienced by students and parents across the country as the reality of America’s tragic mass shooting problem penetrates their consciousness is undeniable. Each of these horrific incidents harms tens of millions, if not hundreds of millions, beyond those killed or wounded at the scene.

²⁸ Elzerie de Jager, et al., “Lethality of Civilian Active Shooter Incidents With and Without Semiautomatic Rifles in the United States,” *JAMA*. 2018;320(10):1034-1035. doi:10.1001/jama.2018.11009. <https://jamanetwork.com/journals/jama/fullarticle/2702134>.

²⁹ Antonis Katsiyannis, Denise K. Whitford, Robin Parks Ennis. “Historical Examination of United States Intentional Mass School Shootings in the 20th and 21st Centuries: Implications for Students, Schools, and Society,” *Journal of Child and Family Studies*, 2018; DOI: [10.1007/s10826-018-1096-2](https://doi.org/10.1007/s10826-018-1096-2).

³⁰ Springer, “Rapid rise in mass school shootings in the United States, study shows: Researchers call for action to address worrying increase in the number of mass school shootings in past two decades.” *ScienceDaily*, 19 April 2018. <www.sciencedaily.com/releases/2018/04/180419131025.htm>.

Table 1. The 12 Deadliest Acts of Intentional Violence in the U.S. since 9/11

Deaths	Date	Location	Used Firearms Equipped With High-Capacity Magazines
60	October 1, 2017	Las Vegas, NV	✓
49	June 12, 2016	Orlando, FL	✓
32	April 16, 2007	Blacksburg, VA	✓
27	December 14, 2012	Newtown, CT	✓
25	November 5, 2017	Sutherland Springs, TX	✓
23	August 3, 2019	El Paso, TX	✓
21	May 24, 2022	Uvalde, TX	✓
17	February 14, 2018	Parkland, FL	✓
18	October 25, 2023	Lewiston, ME	✓
14	December 2, 2015	San Bernardino, CA	✓
13	April 3, 2009	Binghamton, NY	✓
13	November 5, 2009	Fort Hood, TX	✓

52. Indeed, consider the impact of the following student response to a recent mass shooting at a Texas high school:

“It’s been happening everywhere,” student Paige Curry said after a gunman’s attack at Santa Fe High School ... killed [ten and wounded ten]. Asked if there was a moment where she felt as though the shooting could not be real, could not be actually happening at her school, Paige shook her head. “No, there wasn’t,” she said with a small hitch in her voice. “I’ve always kind of felt like eventually it was going to happen here, too,” she said. “So, I don’t know. I wasn’t surprised, I was just scared.”³¹

This is the reality of modern America: fear over the prospect of mass shootings for millions of students and their parents throughout the U.S. The harm of mass shooting in

³¹ Adam Carlson, “I’ve Always Felt Like Eventually It Was Going to Happen Here, Too,’ Says Texas Shooting Survivor,” People, May 18, 2018, <https://www.yahoo.com/entertainment/apos-ve-always-felt-eventually-174424389.html>, <https://www.yahoo.com/entertainment/apos-ve-always-felt-eventually-174424389.html>

the United States is measured in the millions.

53. The FBI's analysis of active shooters over age 18 found that 65 percent had no adult convictions prior to the active shooting event.³² Moreover, the FBI report found that only a tiny fraction would have qualified as "adjudicated mental defectives" that would have been barred from possessing weapons.³³ In other words, the lack of a basis for prohibiting gun ownership under current law for most active shooters means that tighter background checks would not have likely blocked their homicidal objectives.

54. The *Wall Street Journal* analyzed data from the 32 school shootings since 1990 with at least three victims dead or injured.³⁴ In 25 cases, the shooters were in their teens or younger. Of the 20 cases in which information was available, 17 of the shooters obtained their guns from their home or a relative. In other words, law-abiding citizens who possess weapons equipped with high-capacity magazines can and do unwittingly assist their young children and relatives who take their lethal weaponry to commit mass shootings.

55. Nor can we hope to limit these horrific crimes by elevating the probability of apprehending mass shooters once their crime is completed, since almost all mass killers are either captured, commit suicide, or are killed at the scene.³⁵ Tellingly, the recent 18-year-old Buffalo shooter, who killed 10 using the same weapon as the Sandy Hook shooter — a Bushmaster XM-15 semiautomatic rifle equipped with high-capacity magazines — had written, "I am well aware that my actions will effectively ruin my life. If I'm not killed during the attack I will go to prison for an inevitable life sentence."

56. Note the contrast of a school attack in China that occurred only hours before Adam Lanza carried out the Sandy Hook massacre using an assault weapon armed with 30-round magazines: while 22 children and an adult were injured in the attack in China, no one died — a

³² Silver, J., Simons, A., & Craun, S. (2018). A Study of the Pre-Attack Behaviors of Active Shooters in the United States Between 2000 – 2013. Federal Bureau of Investigation, U.S. Department of Justice, Washington, D.C. 20535.

³³ The Gun Control Act of 1968 prohibits gun possession by felons and adjudicated "mental defectives" (18 U.S.C. §922(d)(4) 2016).

³⁴ Tawnell D. Hobbs, "Most Guns Used in School Shootings Come From Home," (April 5, 2018), <https://www.wsj.com/articles/in-school-shootings-most-guns-come-from-home-1522920600>.

³⁵ According to the FBI, in 156 of the 160 episodes, the mass shooter was either captured, committed suicide (64 cases), or was killed (30 cases). Blair, J. Pete, and Schweit, Katherine W. (2014). "A Study of Active Shooter Incidents, 2000 - 2013." Texas State University and Federal Bureau of Investigation, U.S. Department of Justice, Washington D.C. 2014. Of course, those who are captured alive are already punished as severely as the law allows, and the abundant number of mass shootings in Texas and Florida highlights the inefficacy of the death penalty in addressing this problem.

likely result, at least in part, of the attacker using a knife instead of a gun (let alone one with a large-capacity magazine).³⁶

57. Similarly, consider the assassination attempt on the life of Ronald Reagan by John Hinckley on March 30, 1981. Hinckley fired six shots with a six-shot .22 caliber revolver – striking Reagan and three others (White House Press Secretary James Brady in the head, Metropolitan Police Officer Thomas Delahanty in the neck, and Special Agent Tim McCarthy in the abdomen as he turned to shield the president). Hinckley was tackled after he had emptied his gun, and all four of the wounded victims survived the attack.³⁷

58. A similar attempt today would likely be far more devastating -- as a modern semi-automatic pistol with 15 or more bullets would have enabled the assassin to fire off many more rounds, hitting many more victims and delaying the opportunity to stop his attack. Moreover, as careful research has demonstrated, a typical 9 mm pistol round would have been far more lethal than a .22 caliber round³⁸ and the likelihood that individual victims would suffer more bullet wounds – which occurs with high-capacity magazines -- would also enhance the risk of death.³⁹

The Far-Reaching Costs of Public Mass Shootings

59. Mass shootings cause profound physical and social damage. This harm, of course, includes the tragic deaths and devastating physical injuries sustained by direct victims. But the social harm extends far beyond the people who are shot. Public mass shootings are particularly high-visibility events that shock the public and upend the sense of public safety.

³⁶ Mallory Ortberg, “Man Arrested in China After Knife Attack on Students,” <http://gawker.com/5968740/man-arrested-in-china-after-knife-attack-on-students>.

³⁷ U.S Secret Service, Forty Years Since the Assassination Attempt on President Reagan, <https://www.secretservice.gov/reagan40thanniversary>.

³⁸ Specifically, a victim was twice as likely to die from a wound from a 9 mm pistol than from a .22 caliber revolver. Braga and Cook (2018), *supra*, note 27.

³⁹ Two studies have found that the fatality rates of those victims hit by more than 1 bullet were more than 60% higher than the fatality rates of gunshot wound victims who were hit by only a single bullet. Webster DW, Champion HR, Gainer PS, Sykes L. Epidemiologic changes in gunshot wounds in Washington, DC, 1983–1990. *Arch Surg*. 1992;127(6): 694–698; Koper CS, Roth JA. A priori assertions versus empirical inquiry: a reply to Kleck. *J Quant Criminology*. 2001; 17(1):81–88.

Not surprisingly, analyses of gunshot wound victims at level I trauma centers suggest that high-capacity magazines are associated with higher rates of multiple bullet wounds per victim and the increasing rate of death from gunshot wounds. Livingston DH, Lavery RF, Lopreiato MC, Lavery DF, Passannante MR. Unrelenting violence: an analysis of 6,322 gunshot wound patients at a level I trauma center. *J Trauma Acute Care Surg*. 2014;76(1):2–9; Manley NR, Fabian TC, Sharpe JP, Magnotti LJ, Croce MA. Good news, bad news: an analysis of 11,294 gunshot wounds (GSWs) over two decades in a single center. *J Trauma Acute Care Surg*. 2017;84(1):58–65.

60. Considerable scientific literature has documented the significant emotional and mental health harms that mass shootings inflict on survivors, community members, wounded victims, active responders, and children. The consistent finding of these studies is that mass shootings can lead to increased levels of post-traumatic stress disorder (PTSD), anxiety, and depression.⁴⁰ For example, on February 14, 2008, Steven Kazmierczak opened fire in a crowd of Northern Illinois University students, killing 5 people and wounding 17 more before killing himself. This shooting led to dramatic increases in the levels of post-traumatic stress (PTS) symptoms in a sample of Northern Illinois University students.⁴¹

61. Three studies of the 2011 Norway shooting, in which Anders Breivik killed 68 people and wounded at least 32 at a Youth Camp, reached similar results. Four to five months following the shooting, survivors were six times more likely to exhibit elevated PTS symptoms compared to an age- and gender-adjusted sample derived from the overall population.⁴² But the psychic trauma was not limited to the victims and survivors.

62. Two additional studies, which focused on the broader harm to the surrounding community following the shooting, found measurable increases in stress reactions in the general population, with the effects especially strong for young people with a prior history of trauma.⁴³

⁴⁰ Shultz, James M., Siri Thoresen, Brian W. Flynn, et al. 2014. "Multiple Vantage Points on the Mental Health Effects of Mass Shootings." *Current Psychiatry Reports*. 16:469. To complete this meta-analysis of the scientific literature from 2010 to early 2014, the authors searched the PUBMED, SCOPUS, PILOTS, PSYCINFO, and CINAHL databases using combinations of terms for mass shooting incidents with MeSH (Medical Subject Heading) vocabulary on mental health.

⁴¹ Bardeen, Joseph R., Mandy J. Jumpula, and Holly K. Orcutt. 2013. "Emotional regulation difficulties as a prospective predictors of posttraumatic stress symptoms following a mass shooting." *Journal of Anxiety Disorders* 27, no.2 (March): 188-196. This longitudinal study assessed the presence of PTS symptoms in a sample of female undergraduates at Northern Illinois University at three time points: T1, the starting period (pre-shooting) (n=1,045), T2, short term post-shooting (17-100 days post-shooting, n=691), and T3, roughly 7-8 months post-shooting (n=588). In the sample of 691 students that were assessed at T1 and T2, clinically significant levels of PTS rose from 20% pre-shooting to almost 50% post-shooting.

⁴² Dyb, Grete, Tine K. Jensen, Egil Nygaard, et al. 2014. "Post-traumatic stress reactions in survivors of the 2011 massacre on Utoya Island, Norway." *The British Journal of Psychiatry* 204, no. 5 (May): 361-367. Of the 490 survivors from the Utoya shooting invited to participate in the study, 325 agreed. Semi-structured face-to-face interviews were conducted by health personnel approximately 4-5 months after the shooting.

⁴³ Thoresen, Siri, Helene Flood Aakvaag, Tore Wentzel-Larsen, et al. 2012. "The day Norway cried: Proximity and distress in Norwegian citizens following, 22nd July 2011 terrorist attacks in Oslo and on Utoya Island." *European Journal of Traumatology* 3, (Nov). The study drew a representative sample from the Norwegian Population Registry. A total of 465 individuals living in Oslo and 716 individuals living in other parts of Norway were interviewed over the phone 4-5 months after the Breivik attacks. Nordanger, Dag, Kyrre Breivik, Bente Storm Haugland, et al. 2014. "Prior adversities predict posttraumatic stress reactions in adolescents following the Oslo terror events 2011." *European Journal of Traumatology* 5, (May). The study was based on a survey of 10,220 Norwegian high school students that was conducted 7 months after the Oslo and Utoya terrorist attacks. It collected information both on adverse life experiences (e.g., exposure to sexual trauma, violence, etc.) and the exposure and reactions to the Breivik attacks.

Sadly, we must remember that Breivik wrote in his manifesto that he was grateful that he was able to purchase ten 30-round ammunition magazines from a U.S. supplier who mailed the devices to him, since they were not available to him in Europe.

63. More generally, survivors of serious gunshot injuries and multiple victim incidents involving intentionally inflicted harm are at higher risk of experiencing PTS symptoms.⁴⁴

64. Not surprisingly, those who have experienced previous trauma or psychological disorders are especially vulnerable to potential mental health problems after a mass shooting.⁴⁵ Moreover, children are more susceptible experiencing PTS symptoms following a mass shooting. For example, a study of 320 students, who survived a mass public shooting at a Danish high school, found that seven months later 35 percent of students reported PTS symptoms and 7 percent had PTSD.⁴⁶

65. A recent study of broad scope by Maya Rossin-Slater et al. (2019) tries to estimate the impact on mental health of the over 240,000 American students who experienced and survived a school shooting in the last two decades. Using large-scale prescription data from 2006 to 2015, the authors examined the effects of 44 school shootings on youth antidepressant use in a

⁴⁴ Greenspan, Arlene I., and Arthur L. Kellerman. 2002. "Physical and Psychological Outcomes 8 Months After Serious Gunshot Injury." *The Journal of Trauma: Injury, Infection and Critical Care* 53, no.4 (Oct): 709-716. This study interviewed 60 patients who were admitted to a Level 1 trauma center for firearm-related injuries, first, at the time of their hospitalization, and second, 8 months after they were discharged. Most respondents indicated symptoms of PTS 8 months post-discharge, with 39% reporting severe symptoms of intrusion and 42% reporting severe avoidance behaviors. Santiago, Patcho N., Robert J. Ursano, Christine L. Gray, et al. 2013. "A Systematic Review of PTSD Prevalence and Trajectories in DSM-5 Defined Trauma Exposed Populations: Intentional and Non-Intentional Traumatic Events." *PLoS One* 8, no. 4 (April). The authors identified 2,537 articles published from January 1, 1998 to December 31, 2010 and covering longitudinal studies of directly exposed trauma populations. Of these articles, they closely surveyed 58 articles that met the DSM-5 definition of having experienced a traumatic event and assessed PTSD symptoms at two or more time points within a 12-month window. The authors found that in the 5 studies with sufficient data, a median of 37.5% of individuals exposed to intentional traumatic events developed PTSD.

⁴⁵ See Shultz et al. (2014), supra note 40, and Littleton, Heather, Amie E. Grills-Tauchel, Danny Axsom, et al. 2012. "Prior Sexual Trauma and Adjustment Following the Virginia Tech Campus Shooting: Examination of the Mediating Role of Schemas." *Journal of Psychological Trauma* 4, no.6 (Nov): 579-586. This study had interviewed 215 Virginia Tech college women prior to the school's mass shooting and then followed up with them two months and then one year after the shooting. The authors compared the post-shooting PTSD and depression symptoms of women with and without a history of sexual trauma. The authors found that women who had experienced sexual trauma reported significantly higher levels of depression ($p=0.006$) and shooting-related PTSD symptoms ($p=0.04$) in the post-shooting interview.

⁴⁶ Elklit, Ask, and Sessel Kurdaahl. 2013. "The psychological reactions after witnessing a killing in public in a Danish high school." *European Journal of Traumatology* 4, (Jan). Seven months after the mass public shooting, researchers administered the Harvard Trauma Questionnaire to Danish students in the second and third grade of high school (this is roughly equivalent to the final two years of high school in the US system). The questionnaire was also mailed to parents' addresses of students who had graduated in June. Of the 415 students enrolled at the time of the shooting, 320 students returned the questionnaire.

difference-in-difference framework. Their main finding was that local exposure to fatal school shootings increased youth antidepressant use by 21.4 percent in the following two years.⁴⁷ This problem is especially acute here in the U.S.: With only 5 percent of the world's population, the U.S. has roughly one-third of the public mass shootings across 171 countries since the late 1960s.⁴⁸

Banning High-Capacity Magazines Saves Lives and Reduces Injuries

66. Louis Klarevas, the author of *Rampage Nation: Securing America from Mass Shootings* (Amherst, NY: Prometheus 2016), has become the primary authority on research concerning mass shootings in the United States. Klarevas finds that the use of large-capacity magazines leads to more bullet wounds for victims (thereby substantially increasing the death toll of those who are shot), results in more shots fired (thus increasing the number of individuals who are shot) and reduces the capacity of potential victims to flee to safety or take effective defensive action.

67. Klarevas was the first to highlight that the ten-year federal ban, which applied to new semi-automatic assault rifles with certain features that made them attractive to mass shooters *and* new ammunition magazines that could hold more than ten rounds, reduced the toll from mass shootings. Klarevas illustrated that the pattern of the deadliest mass shootings changed over the period from 1984-2014. Examining gun massacres in which at least six were killed, Klarevas found that these incidents and the number of resulting deaths fell during the decade in which the federal assault weapons ban was in place and then rebounded when the ban was lifted in 2004.

68. Specifically, Klarevas found that, from 1994-2004, there were only 12 incidents – slightly over one per year – due to assault weapons, resulting in 89 deaths. In the following decade, when the federal assault weapons ban was no longer in place, there was a dramatic surge in both the number of gun massacres and the total death toll: From 2004-2014, the number of gun massacres rose from 12 to 34 and the number of gun deaths jumped from 89 to 302. Moreover, since overall crime was trending down over this period, the link between the

⁴⁷ Maya Rossin-Slater, Molly Schnell, Hannes Schwandt, Sam Trejo, Lindsey Uniat, Local Exposure to School Shootings and Youth Antidepressant Use, NBER Working Paper No. 26563 (December 2019), <https://www.nber.org/papers/w26563>. See also, “My son survived Sandy Hook. It’s changed me as a parent,” *The Washington Post*, December 13, 2019, <https://www.washingtonpost.com/lifestyle/2019/12/13/i-cry-high-school-meets-how-sandy-hook-changed-me-parent/>.

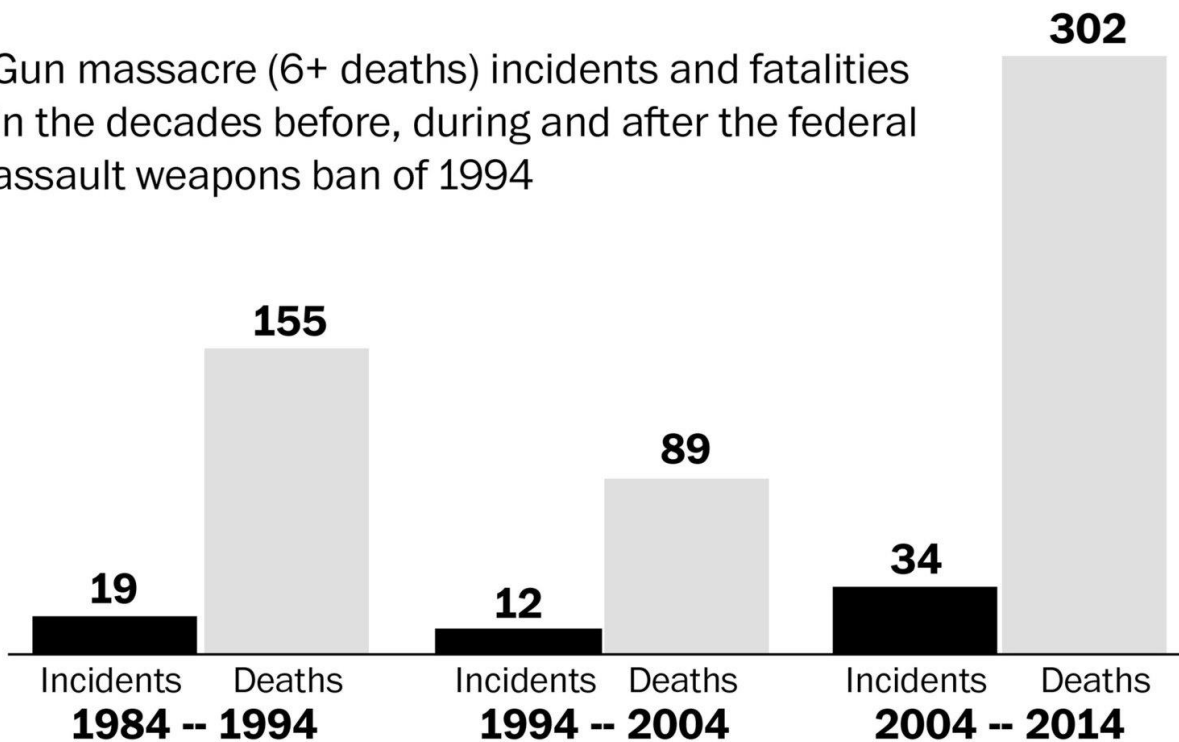
⁴⁸ Lankford, Adam, “Public Mass Shooters and Firearms: A Cross-National Study of 171 Countries,” *Violence and Victims*, Vol 31, Issue 2, DOI: 10.1891/0886-6708.VV-D-15-00093, <http://connect.springerpub.com/content/sgrvv/31/2/187>.

expansion of high-capacity magazines following the lapse in the federal assault weapon ban and the increased number of gun massacres is further buttressed.

Figure 3

Gun massacres fell during the assault weapons ban

Gun massacre (6+ deaths) incidents and fatalities in the decades before, during and after the federal assault weapons ban of 1994



Source: Louis Klarevas
THE WASHINGTON POST

69. Since the Klarevas data ended in 2014, I conducted my own study, both to verify the accuracy of his findings and then to extend the analysis forward to the present. In implementing his definition of a gun massacre as a mass shooting incident in which 6 or more people died, Klarevas notes in his book that “It doesn’t matter if there is one gunman or several gunmen. It doesn’t need to occur in public. It can be for any reason whatsoever.” In my study, I chose to use the *Mother Jones* database, which does limit the gun crimes to killings occurring in a public place and omits killings related to armed robbery, gang activity, or domestic violence in accord

with recent FBI practice. I augmented the Mother Jones data whenever I found it had missed relevant mass shootings that appeared in other mass shooting databases.

70. Figure 4 below⁴⁹ demonstrates that the number and deadliness of mass shootings dropped during the ten years of the federal assault weapons ban (September 1994 through 2004) and rose sharply after the ban was lifted.⁵⁰ Although the number of incidents is too limited to highlight the 25 percent drop in gun massacres, the 40 percent drop in overall fatalities during the period of the federal ban is substantial and noteworthy.

71. After the federal ban lapsed in 2004, the gun market was flooded with increasingly more powerful weaponry that enabled shooters to carry more rounds and fire more rounds more quickly. The decade after the ban elapsed saw a 266 percent increase in mass shooting incidents and a 347 percent increase in fatalities, even as overall violent crime continued downward (reflected in the dotted line in Figure 4). In other words, my independent assessment confirms the pattern first revealed by Louis Klarevas: gun massacres fell during the assault weapons ban and rose sharply when it was removed in 2004.

72. What has happened since 2014 is even more alarming. In five years, the number of fatalities in these gun massacres has already topped the previous high that occurred during the first decade after the federal assault weapon ban was removed. During that same period, overall violent crime persisted on a downward trend, as the dotted line in Figure 4 confirms.⁵¹ If the frequency and lethality of gun massacres during 2019-24 match the 2014-19 period, the last

⁴⁹ Figures 4 and 5 are replicated from John Donohue and Theodora Boulouta, “The Assault Weapon Ban Saved Lives,” *Stanford Law School Legal Aggregate*, October 15, 2019, <https://stanford.io/2MWNsrV> and discussed further in John Donohue, “The Swerve to ‘Guns Everywhere’: A Legal and Empirical Evaluation” 83 *Law and Contemporary Problems* 117-136 (2020). <https://scholarship.law.duke.edu/lcp/vol83/iss3/7>. See also the earlier piece: John Donohue and Theodora Boulouta, “That Assault Weapon Ban? It Really Did Work,” *The New York Times*, September 5, 2019, (with Theodora Boulouta), <https://www.nytimes.com/2019/09/04/opinion/assault-weapon-ban.html>.

⁵⁰ The Federal Assault Weapons Ban took effect September 13, 1994, and expired on September 13, 2004, due to a sunset provision that enabled the law to lapse after President George W. Bush reneged on his campaign promise to support retention of the federal ban.

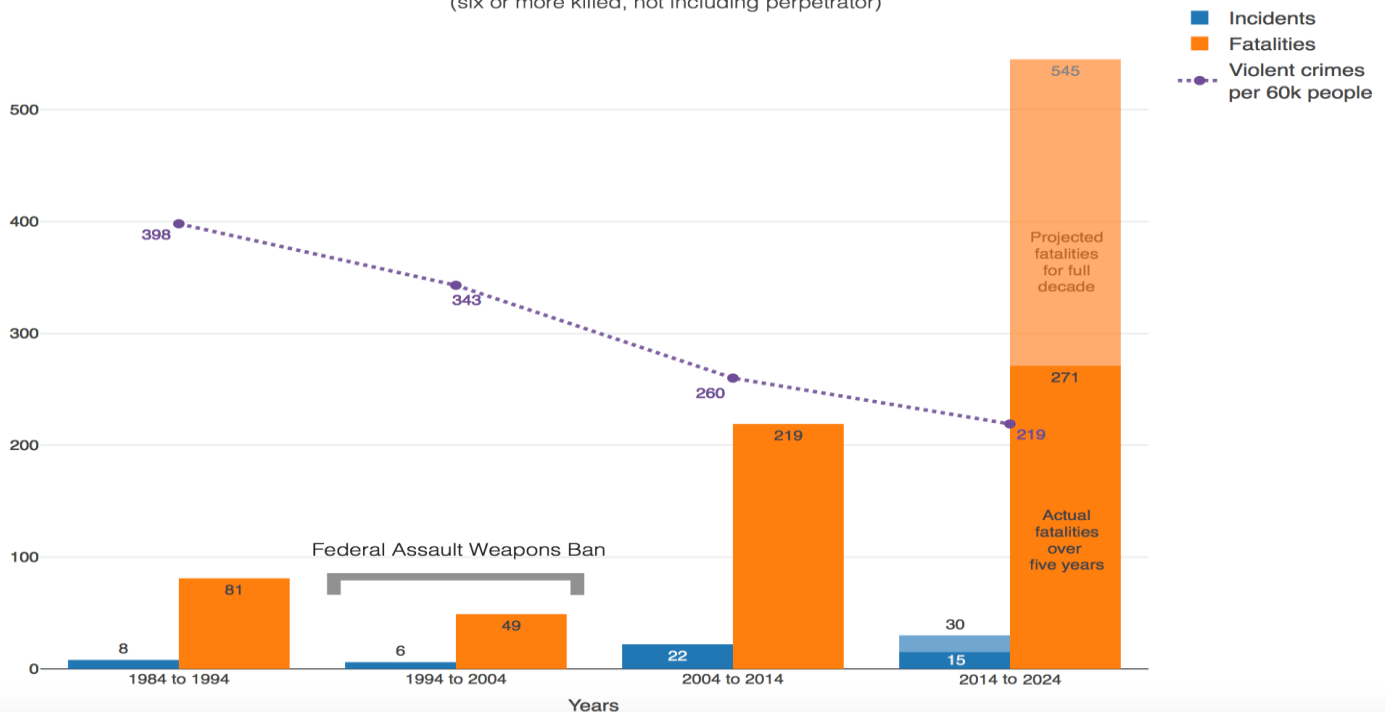
⁵¹ This downward trend in violent crime, even as mass shootings rise after 2004, is important evidence of the harmful impact of ending the federal assault weapons ban. Without that evidence, one might mistakenly think that the overall violent crime drop of roughly 14 percent during the decade of the federal assault weapons ban was simply part of downward crime which itself explains the drop in mass shooting deaths. The experience after 2004 undermines that view.

column of Figure 4 shows that we will have an astonishing order of magnitude increase in gun massacre deaths over a 20-year period.⁵²

73. The evident effectiveness of the ten-year federal ban in reducing mass shooting deaths is exactly what we would expect, since during that decade mass killers could not simply enter a gun store and buy a weapon with a large-capacity magazine, as they can do in most of the U.S. today.⁵³

Figure 4

Gun Massacres Were Less Frequent And Less Deadly During The Federal Assault Weapons Ban
(six or more killed, not including perpetrator)



Mass shooting data from Mother Jones; dates begin and end in September to reflect the period from 9/13/1994 to 9/12/2004 when the federal assault weapons ban was in place, except for the last column, which ends in 9/2/2019. Violent crime rate data from UCR; dots mark ten-year averages, except for the last dot, which ends in 6/2018.

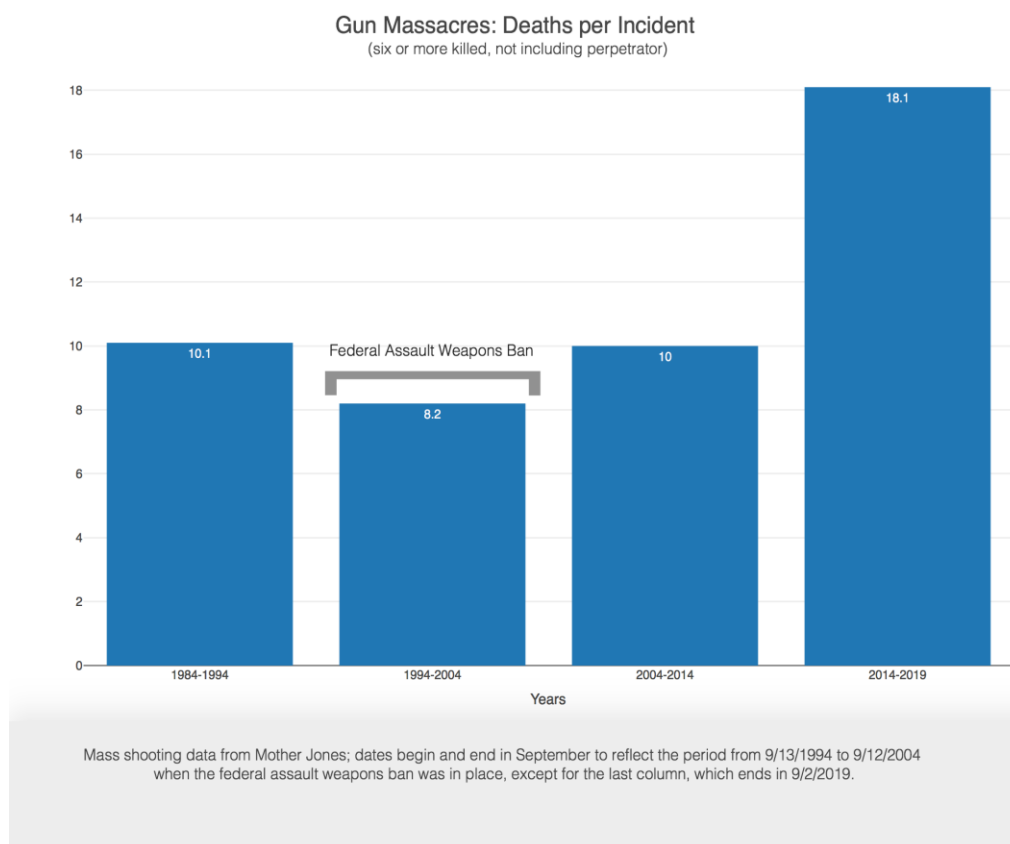
⁵² Note that the numbers of mass shootings would be substantially larger using alternative definitions, such as the Gun Violence Archive definition of *four individuals wounded by gunfire in a single incident*. Using that more capacious definition, there have been 366 mass shootings in the first 318 days of 2019, killing 408 and injuring 1477. <https://www.insider.com/number-of-mass-shootings-in-america-this-year-2019-8>.

⁵³ With the recent adoption of a new law in Illinois, 9 states and the District of Columbia ban assault weapons and all of those states plus Colorado and Vermont restrict the permissible size of ammunition magazines.

74. Figure 5 illustrates the average number of fatalities in each mass shooting for the same four periods shown in Figure 4. The pattern is the same: fatalities per incident fell during the federal assault weapon ban and have risen sharply thereafter. With the weaponry available to citizens getting increasingly more potent and plentiful, the average number of people who die in every incident has increased by 90 percent since the decade after elimination of the federal assault weapons ban.

75. High-capacity magazines were used in all 15 gun massacres since 2014 in which at least six were killed (other than the shooter) shown in Figure 4; all 272 people who died in these 15 gun massacres were killed by weaponry prohibited under the federal assault weapons ban on LCMs.⁵⁴

Figure 5

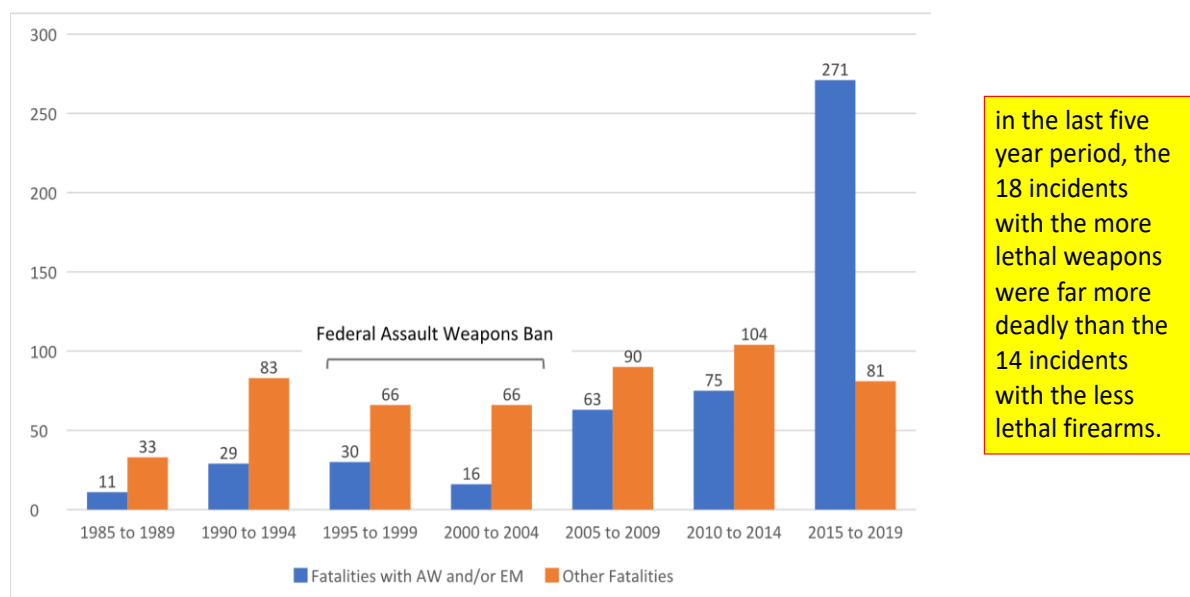


⁵⁴ After Figure 4 and Figure 6 were created, another victim of the Las Vegas shooting died after two horrendous and agonizing years as a quadriplegic, which elevates to 272 the number of deaths from public gun massacres in the last five years. The following article highlights some of the devastating injuries that result from being shot by an assault rifle, such as that used by the Las Vegas shooter. https://www.kptv.com/news/vancouver-woman-says-sister-injured-in-las-vegas-shooting-has/article_af9198c6-099c-11ea-87c1-37de7096726f.html.

76. This instrumentality effect was further demonstrated in an article I authored with Phil Cook in 2022.⁵⁵ Figure 6 below shows the deaths that occurred from these public mass shootings over the period from 1985-2019 in five-year increments. By the second half of the ten-year existence of the federal assault weapons ban (1999-2004), fatalities from public mass shootings using banned weaponry had virtually been cut in half (falling from 30 down to 16). Conversely, there was no decline in public mass shooting deaths over this period with non-banned weaponry.

Figure 6

Victim Counts for Mass Public Shootings in the United States, 1985 - 2019
Using Assault Weapons and/or High-Capacity Magazines versus Other Firearms



77. After the federal ban lapsed in 2004, the deaths from public mass shootings using the previously banned weaponry rose sharply: rising from 16 in the last five years of the federal ban to 271—17 times higher—in the five-year span from 2015-2019. Meanwhile, there was

⁵⁵ Phil Cook and John Donohue, “Regulating Assault Weapons and Large-Capacity Magazines for Ammunition,” *JAMA*. 2022; 328(12):1191-1192. <https://jamanetwork.com/journals/jama/fullarticle/2796675>.

relatively little movement in public mass shooting deaths using less-lethal weaponry (neither an assault weapon nor a high-capacity magazine). Indeed, as Figure 6 illustrates, there was roughly the same number of deaths from less lethal weaponry in the five-years prior to the federal assault weapons ban (1990-1994) as there was from 2015-2019—specifically, 83 in the pre-ban period and 81 in the final period.

78. Figure 6 also highlights that, while there was a roughly comparable *number of incidents* of public mass shootings that used either the most lethal (previously federally banned) weaponry or less lethal firearms not subject to the federal ban, the incidents involving assault weapons and/or high-capacity magazines were far more lethal. Specifically, the 18 public mass shootings conducted with the most lethal weapons killed 271 (roughly 15 deaths per episode), while the 14 public mass shootings with the less lethal firearms killed 81 (about 5.8 deaths per episode).

Restrictions on Magazine Capacity Reduce Mass Shooting Deaths and Casualties

79. Table 2 provides my econometric analysis of Mother Jones mass shootings data from 1982-2019 to assess empirically whether bans on assault weapons and large-capacity magazines at the state and federal level have limited mass shootings deaths and overall casualties.⁵⁶ This analysis reveals that such bans do generate statistically significant reductions in mass shooting deaths and casualties.

80. This panel data analysis simultaneously examines data from all 50 states and the District of Columbia from 1982-2019 to ascertain what happens when federal or state bans on assault weapons and/or high-capacity magazines go into effect or are eliminated. The statistical model specifically controls for national influences on mass shootings that occur each year (“year effects”) as well as the stable differences in mass shooting rates across states (“state effects”).⁵⁷ This panel data model also controls for a variety of criminal justice, socio-economic, and demographic factors that could also influence violent crime.⁵⁸

⁵⁶ Table 2 appears as Table 1 in Donohue, “The Effect of Permissive Gun Laws on Crime,” 2023, in Cassandra Crifasi, Jennifer Necci Dineen, and Kerri M. Raissian, eds., Preventing Gun Violence in America: What Works and What is Possible, *The ANNALS of the American Academy of Political and Social Science*, Volume 704, Issue 1, <https://journals.sagepub.com/eprint/UF4SKB7ECIYKNVNMXSAB/full>.

⁵⁷ This is a population-weighted, state-level, two-way fixed effects regression.

⁵⁸ The controls include the lagged incarceration rate in each state for each year, the lagged police employee rate, real per capita personal income, the unemployment rate, poverty rate, beer consumption, the percentage of the population living in MSAs, and six demographic variables (based on different age-sex-race categories). This statistical model

81. Table 2 indicates that having a ban on assault weapons and/or high-capacity magazines (whether at the state or federal level) in place in a given state is associated with a statistically significant decrease in per capita rates of deaths and casualties due to mass shootings.⁵⁹ Overall, this analysis serves to further reinforce and expand upon earlier findings that bans on assault weapons and high-capacity magazines save lives.

82. Table 2 provides powerful panel data evidence that bans on assault weapons and/or high-capacity magazines reduce the social harm of mass shootings, but it does raise the question of the independent benefit from each of these two types of bans. This question is harder to answer econometrically because most of the observations in our data set have both bans in place or neither of them. For example, the federal assault weapons ban in place from 1994-2004 banned both assault weapons and high-capacity magazines and most states that have adopted one of these have adopted both.

is described in greater details in Donohue, John, Abhay Aneja, and Kyle Weber, “Right-to-Carry Laws and Violent Crime: A Comprehensive Assessment Using Panel Data and a State-Level Synthetic Control Analysis” *Journal of Empirical Legal Studies*, April 2019, <https://onlinelibrary.wiley.com/doi/full/10.1111/jels.12219>.

⁵⁹ The model also suggests that these gun safety restrictions suppress the rate of mass shooting incidents and injuries, although the evidence is statistically weaker for these dependent variables although the injury-alone effect is statistically significant at the .10 level.

Table 2

*The Effect of Assault Weapon and High-Capacity Magazine Bans on Mass Shootings,
1982-2019*

	Mass Shooting ^a <i>Incidents</i> per 10,000,000 Population	Mass Shooting <i>Deaths</i> per 1,000,000 Population	Mass Shooting <i>Injuries</i> per 1,000,000 Population	Mass Shooting <i>Casualties</i> ^b per 1,000,000 Population
Assault Weapon or High-Capacity Magazine Ban ^c	-.07 (0.05)	-.09** (0.04)	-.22* (0.12)	-.31** (0.15)
<p>Notes: Outcome variables are based on <i>Mother Jones</i>' database of mass shootings in the 50 states plus Washington DC from 1982 to 2019. The OLS regressions also included the socioeconomic control variables used in DAW 2019 as well as state and year fixed effects. The coefficients on these variables were omitted from this table to conserve space. Regressions are weighted by each state's 1999 population, and standard errors are clustered at the state level.</p> <p>^a Mass shootings are defined as attacks in public places in which four or more victims were killed.</p> <p>^b Casualties are defined as people who were either injured or killed during a mass shooting.</p> <p>^c The variable "Assault Weapon or High-Capacity Magazine Ban" is assigned a value of 1 for each state-year for which either an assault weapon ban or high-capacity magazine ban was active, and 0 for all other state-years.</p> <p>* p<0.1; ** p<0.05; *** p<0.01</p>				

83. To gain some purchase on the independent effect of high-capacity magazines, another empirical study isolated the impact when only a ban on high-capacity magazines was in place. That study by Klarevas, Conner, and Hemenway examined high-fatality mass shootings killing at least six victims between 1990 and 2017 and concluded that "LCM bans have been effective at

saving lives” by reducing the incidence of fatal mass shootings and the number of deaths in these mass shootings.⁶⁰ The authors found that:

Attacks involving LCMs resulted in a 62% higher mean average death toll. The incidence of high-fatality mass shootings in non-LCM ban states was more than double the rate in LCM ban states; the annual number of deaths was more than 3 times higher. In multivariate analyses [controlling “for 10 independent variables often associated with overall crime rates, as well as state and year effects”] states without an LCM ban experienced significantly more high-fatality mass shootings and a higher death rate from such incidents.

84. Table 2 showed that restrictions on magazine size and/or assault weapons reduced deaths and injuries from mass shootings, and the Klarevas, Conner, and Hemenway study found the same result when filtering for jurisdictions that had magazine-size restrictions (although most of them had restrictions on assault weapons as well).

85. One study by Webster et al. (2020) has attempted the econometrically more difficult task of teasing out the separate impact of these two types of restrictions, which is only possible because some states have had periods when only one of these restrictions was in place (for example, Colorado has had a magazine ban without an accompanying ban on assault weapons -- as Vermont now has).⁶¹ Webster et al. examined the period from 1984 - 2017 and concluded that bans on large-capacity magazines (LCMs) reduce the incidence of fatal mass shootings and the number of fatalities in mass shootings. The authors commented on their findings as follows:

there is a clear functional link between LCMs and the ability of a shooter to take more lives. Our estimates of LCM ban impacts show the largest protective effects on high-fatality count shootings and on the number of victims murdered in mass shootings, and the point estimates are large in all model specifications.

They further elaborated why they concluded that the magazine size restrictions were even more important in reducing deaths from mass shootings than assault weapons bans, focusing on the lesser ability to circumvent a high-capacity magazine restriction as well as its greater reach to a wider range of firearms:

⁶⁰ Klarevas L, Conner A, Hemenway D. “[The effect of large-capacity magazine bans on high-fatality mass shootings, 1990-2017](#),” *Am J Public Health*. 2019;109(12):1754-1761.

⁶¹ Webster, Daniel W.; McCourt, Alexander D.; Crifasi, Cassandra K.; Booty, Marisa D.; Stuart, Elizabeth A. (February 2020). “Evidence concerning the regulation of firearms design, sale, and carrying on fatal mass shootings in the United States,” *Criminology & Public Policy*. **19** (1): 171–212.

It should be noted that the federal assault weapons ban and some state bans of assault weapons have resulted in gun manufacturers making slight alterations in the characteristics of weapon models that are banned. These newer models, assault weapons that were grandfathered by the bans, and the ability to purchase components of assault weapons online provide substitutes for the banned firearms for individuals considering carrying out acts of mass violence. LCM bans may be less likely to result in acquisition of equivalent substitutes as is the case for assault weapon bans.

86. One of the unfortunate consequences of the continuing advances in the lethality and power of modern firearms is that, without appropriate government action, the dangers posed by civilian weaponry will continue to outpace any legitimate crime-reducing benefit that firearms might provide. The lesson of the November 2017 massacre at the Sutherland Springs Baptist Church in Texas highlights the growing dangers. The killer in that case used an AR-15 that was modified to include a laser scope and features that could allow large-capacity magazines to be more quickly reloaded to maintain a relentless barrage. The killer stood outside the church and fired straight through the walls of the church as he strafed along at just above the top of the levels of the church pews, allowing him to shoot 254 shots from **outside** the church in a matter of minutes on his way to killing 26 men, women, and children. No portable weapon in civilian hands at the time of the adoption of the Second Amendment could possibly generate this degree of destruction so rapidly. The evident social harms will only grow as gun technology increases firearm lethality.

87. The tragedy that first brought mass shootings into the public consciousness is often thought to be the 1966 reign of death from the top of the University of Texas memorial tower when Charles Whitman used scoped hunting rifles to kill 14 and wound 32. Whitman was an expert Marine marksman, perched in a very protected space to continue his barrage, and it took him 90 minutes to produce this level of mayhem. Fast forward to November 5, 2009, and Nidal Hasan, an inexperienced shooter, was able to fire 214 times at Fort Hood in less than 10 minutes with a faster shooting handgun equipped with high-capacity magazines, killing 13 and also wounding 32.⁶² The August 4, 2019 attack targeting a Dayton, Ohio bar district lasted only 32

⁶² Lee Hancock, "The gun Nidal Hasan used to kill at Fort Hood," Jun 17, 2011, *The Dallas Morning News*, <https://www.dallasnews.com/opinion/commentary/2011/06/17/lee-hancock-the-gun-nidal-hasan-used-to-kill-at-fort-hood/>.

seconds, yet armed with a 100 round drum magazine, the shooter was still able to kill nine and shoot 17 others.⁶³

88. The dramatic increases in gun massacre incidents and fatalities closely tracks the growth in U.S. sales of previously federally-banned weaponry that was ignited by the expiration of the federal assault-weapons ban in 2004, the removal of potential liability on the part of gun merchants, and intense advertising of the militarized upgrades, ranging from high-capacity magazines to flash suppressors, that stimulated the demand for this highly dangerous consumer product. Josh Sugarmann, executive director of the Violence Policy Center, notes that “The end of the assault-weapons ban allowed for the customization and modification of these weapons to make them look even more militaristic, even more grand in the eyes of their owners.”⁶⁴

89. An analysis of mass shooting data by a group of injury epidemiologists and trauma surgeons confirms these findings:

We calculated that the risk of a person in the U.S. dying in a mass shooting was 70% lower during the period in which the assault weapons ban was active. The proportion of overall gun homicides resulting from mass shootings was also down, with nine fewer mass-shooting-related fatalities per 10,000 shooting deaths.⁶⁵

90. Hundreds of law-abiding citizens have been killed in mass shootings and the problem of mass shootings is getting worse. Because large-capacity magazines provide no additional value for self-defense over the magazines permitted by 13 V.S.A. § 4021, the primary impact of removing such magazines from circulation will be to decrease the prospect that a law-abiding citizen will be confronted by a criminal with such weaponry.

91. “[L]aw-abiding citizens” whose guns are lost or stolen each year are one of the most important sources of weapons for criminals in the United States. The best current estimates are that roughly 400,000 guns move into the hands of criminals this way each year in the United

⁶³ Although the shooter had previously been suspended from high school for making hit lists of students he wanted to rape and kill, he met the gun industry definition of a responsible, law-abiding citizen who should be able to purchase the weaponry he employed to commit mass murder. Biesecker, Michael; Carr Smyth, Julie (August 5, 2019). “Classmates: Ohio shooter kept a ‘hit list’ and a ‘rape list’”. Associated Press.

⁶⁴ Quoted in Tim Dickinson, “All-American Killer: How the AR-15 Became Mass Shooters’ Weapon of Choice,” *Rolling Stone*, February 22, 2018, <https://www.rollingstone.com/politics/politics-features/all-american-killer-how-the-ar-15-became-mass-shooters-weapon-of-choice-107819/>

⁶⁵ Klein, Michael, 2022. “Did the assault weapons ban of 1994 bring down mass shootings? Here’s what the data tells us,” *The Conversation*, June 8, 2022, <https://theconversation.com/did-the-assault-weapons-ban-of-1994-bring-down-mass-shootings-heres-what-the-data-tells-us-184430>.

States.⁶⁶ In other words, it is orders of magnitudes more likely that a criminal will steal a gun of a law-abiding citizen than a law-abiding citizen will fire an assault weapon in lawful self-defense. More assault weapons in the hands of law-abiding citizens like Nancy Lanza means more assault weapons in the hands of criminals such as Adam Lanza.

92. Further, many of the most horrific mass shootings in America were perpetrated by previously law-abiding citizens. The list, which is too long to recite, includes Stephen Paddock, who killed 59 in Las Vegas; Omar Mateen, who killed 49 in the Pulse nightclub in Orlando; Adam Lanza, who killed 26 in Newtown, Connecticut; and the Batman killer in Aurora, Colorado, who killed 12, as well as the Buffalo and Uvalde, Texas shootings in May 2022, where 10 and 21 died, respectively, after being shot with assault weapons equipped with high-capacity magazines.

93. The empirical evidence supports the conclusion that if, rather than allowing the federal assault weapons ban to lapse in 2004, the country had moved to a more complete ban, many of the gun tragedies of recent years would have been far less deadly and damaging to countless individuals who have been maimed and injured throughout the United States. It is also my opinion that Vermont's ban on high-capacity magazines is one tool in the important governmental effort to reduce the likelihood that residents of the state will be killed in mass shootings by making it incrementally harder for prospective mass shooters to equip weapons with lethal accoutrements that are both uniquely appealing to their criminal aspirations as well as uniquely designed to aid in their homicidal rampages.

⁶⁶According to Larry Keane, senior vice president of the National Shooting Sports Foundation (a trade group that represents firearms manufacturers), "There are more guns stolen every year than there are violent crimes committed with firearms." More than 237,000 guns were reported stolen in the United States in 2016, according to the FBI's National Crime Information Center. The actual number of thefts is obviously much higher since many gun thefts are never reported to police, and "many gun owners who report thefts do not know the serial numbers on their firearms, data required to input weapons into the NCIC." The best survey estimated 380,000 guns were stolen annually in recent years, but given the upward trend in reports to police, that figure likely understates the current level of gun thefts. See, Freskos, Brian, 2017, "These Gun Owners Are at the Highest Risk of Having Their Firearms Stolen." *The Trace*. 4/11/2017. <https://www.thetrace.org/2017/04/gun-owners-high-risk-firearm-theft/> and Freskos, Brian. 2017. "Missing Pieces." *The Trace*. 11/20/2017. <https://www.thetrace.org/features/stolen-guns-violent-crime-america/>.

High-Capacity Magazines Enhance The Danger from Firearms; Regulating Their Possession and Use Reduces the Danger.

94. Because the intent of the public mass shooter is to kill as many people as possible, the lethal capacity of the weapon will influence the toll of these homicidal events (as opposed to the defensive setting when brandishing typically achieves its goal). As Klarevas, Koper, and courts have observed, assault weapons with large-capacity magazines are disproportionately used in mass shootings.⁶⁷ When such weapons are deployed in mass shootings, they “result in ‘more shots fired, persons wounded, and wounds per victim than do other gun attacks.’”⁶⁸ Among the mass shootings identified in a 2016 study by Everytown for Gun Safety, use of a large-capacity magazine, or assault weapon that likely included a large-capacity magazine, was associated with more than twice as many people being shot and nearly 50 percent more people being killed.⁶⁹

95. Some have tried to argue that the federal assault weapons ban could not have been effective since it only limited acquisitions of newly acquired weapons without directly reducing the existing stock of assault weapons or high-capacity magazines. This view is incorrect conceptually and has been refuted by the empirical data. First, keeping a new generation of potential mass murderers from having easy access generates immediate benefits. Moreover, given the strong leakage from theft and loss that allows guns to flow from the law-abiding to the criminal sector, restraining the growth in the stock of weaponry most useful to criminals will also be socially beneficial. Second, the empirical evidence illustrates this effectiveness very directly. Figure 10 shows data from Chris Koper’s investigation in six cities of the percent of guns recovered at crime scenes that were assault weapons, documenting how this percentage changed after the federal assault weapons ban went into effect. The figure clearly shows that the prevalence of assault weapons found at crime scenes fell in all six cities when the ban went into effect.

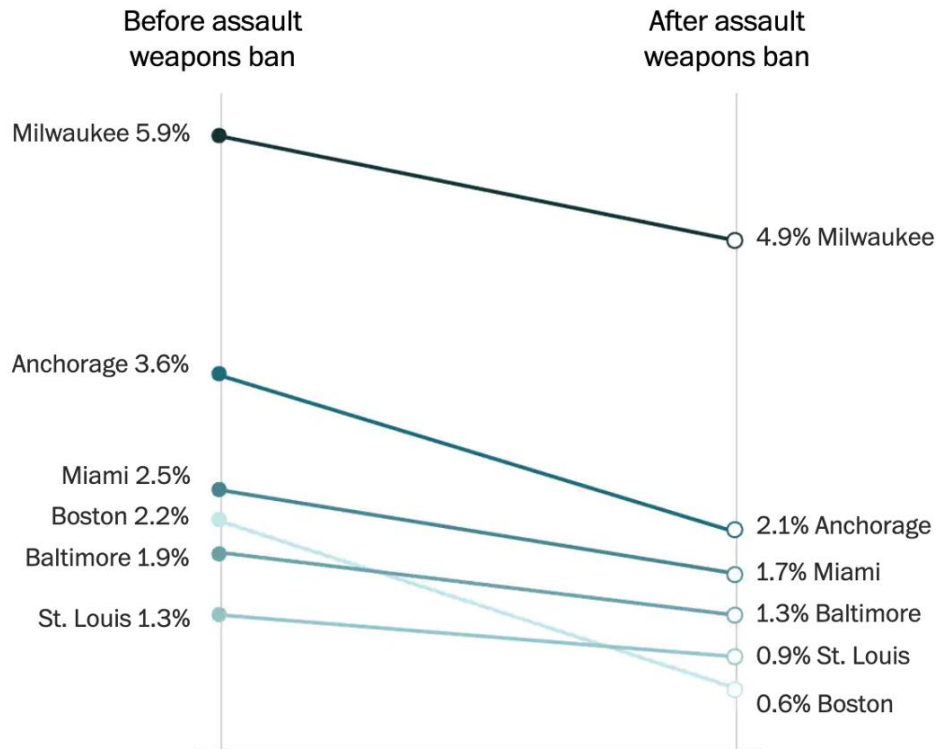
⁶⁷ Christopher Ingraham, *It's Time to Bring Back the Assault Weapons Ban, Gun Violence Experts Say*, Washington Post, February 15, 2018, <https://www.washingtonpost.com/news/wonk/wp/2018/02/15/its-time-to-bring-back-the-assault-weapons-ban-gun-violence-experts-say/>; Koper 2004 Assessment at 14, 18.

⁶⁸ *N.Y.S. Rifle*, 804 F.3d at 264 (quoting *Heller v. District of Columbia*, 670 F.3d 1244, 1263 (D.C. Cir. 2011)).

⁶⁹ Mass Shootings in the United States: 2009 – 2016, Appendix of Shootings Profiled, <https://everytownresearch.org/documents/2017/03/appendix-mass-shootings-united-states-2009-2016.pdf>.

Figure 10

Assault weapons as a share of guns recovered by police at crime scenes



Time periods for data for each city vary based on when data was collected.

Source: Christopher Koper, 2004 National Institute of Justice study

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96. Subsequent research by Koper et al. (2017: 319) further highlights both the increased danger from assault weapons (AWs) and firearms with large-capacity magazines (LCM firearms):

LCM firearms, which include AWs as well as other high-capacity semiautomatics, appear to account for 22-36% of crime guns in most places, with some estimates upwards of 40% for cases involving serious violence. These estimates are comparable to or higher than earlier estimates of LCM use. ...

Consistent with prior research, this study also finds that AWs and LCM firearms are more heavily represented among guns used in murders of police and mass murders. AWs account for 13–16% of guns used in murders of police, while LCM weapons overall account for about 41% of these weapons. Estimates for firearm mass murders are very imprecise due to lack of data on the guns and magazines used in these cases, but available information suggests that AWs and other high-

capacity semiautomatics are involved in as many as 57% of such incidents. Further, they are particularly prominent in public mass shootings and those resulting in the highest casualty counts.

Importantly, trend analyses suggest that LCM firearms have grown substantially as a share of crime guns since the expiration of the federal ban on AWs and LCMs.⁷⁰

97. In other words, the use of banned firearms and magazines by criminals fell during the federal assault weapons ban and rose when it lapsed. These weapons also account for a major share of murders of police and overall crime, as well as for firearm mass murder.

98. In 2016, fourteen-year old Jesse Osborne of South Carolina wanted to top the Sandy Hook death toll, and he made numerous attempts to get his father's assault weapon from a gun safe as he planned a school shooting at a nearby elementary school. When that failed, he took his father's loaded handgun from his bed dresser and killed his father before heading to the school where he opened fire on the playground, killing a 6-year-old boy before his gun jammed. For those who harbor homicidal fantasies similar to Jesse Osborne, the most powerful and deadly weapons will be most helpful for their criminal designs.⁷¹ Osborne's inability to access a weapon with a large magazine (and other particularly lethal features) prevented him from committing the more horrific crime he envisioned.

99. My empirical evaluation of data through 2019 shows that restrictions on high-capacity magazines reduce the risk of mass shootings involving tens or hundreds of victims.⁷² The evidence that the federal assault weapons ban reduced deaths from public mass shootings is powerful and unrefuted.

⁷⁰ Koper, Christopher *et al.* (2017), "Criminal Use of Assault Weapons and High-Capacity Semiautomatic Firearms: An Updated Examination of Local and National Sources," *J Urban Health* (2018) 95:313–321, DOI 10.1007/s11524-017-0205-7. The authors summarized their findings based on crime data from Minneapolis from January - August 2014 as follows: This study has highlighted the potential value of LCM restrictions for reducing HVG cases, which pose clear public dangers (nearly all HVG cases in this study occurred in public or outdoor settings). The findings underscore the concern that criminal use of semiautomatic weapons with large ammunition magazines facilitates particularly dangerous and injurious HVG incidents that contribute to a notable share of gunshot victimisations. Koper, Christopher *et al.*, (2019), "Gunshot victimisations resulting from high-volume gunfire incidents in Minneapolis: findings and policy implications," *Injury Prevention* 25:i9-i11.

⁷¹ As the *Wall Street Journal* study referenced above found, a sizeable proportion of students aged 12-18 had access to firearms without adult permission. See Tawnell D. Hobbs, "Most Guns Used in School Shootings Come From Home," *The Wall Street Journal*, <https://www.wsj.com/articles/in-school-shootings-most-guns-come-from-home-1522920600>, April 5, 2018.

⁷² John Donohue and Theodora Boulouta, "The Assault Weapon Ban Saved Lives," *Stanford Law School Legal Aggregate*, October 15, 2019, <https://stanford.io/2MWNsrV>.

Firing Capacity Restrictions Have Historically Corresponded with Increased Use and Criminal Abuse

100. Restrictions on weaponry and accessories have historically been enacted in response to growing criminal abuse and social harm, rather than at the time these technologies are first introduced. This makes sense because it is not always clear at the outset which inventions will lead to adverse impacts on public safety. Frequently, the dangers of products and practices fly below the radar until their proliferation generates sufficient social damage to enable the public and the scientific community to become aware of the full extent of their social harm.

101. The first group of state restrictions on the number of rounds that could be fired by a firearm without reloading were adopted in the 1920s and 1930s after weapons like the Tommy gun became a preferred weapon for gangsters.⁷³ More recently, after pistols replaced revolvers as the most commonly used handguns in the United States in the 1980s, a second round of restrictions addressing magazine capacity and assault weapons began to be adopted, including the now expired 10-year federal ban on large-capacity magazines.⁷⁴ State restrictions continued to be adopted following the expiration of the federal ban, often in response to public mass shootings.

Limiting the Size of Ammunition Magazines Should Save Lives and Reduce Injuries

102. No single regulatory measure is likely to be as effective in addressing the problem of public mass shootings as limiting the size of the ammunition magazine. As discussed above, the evidence from the ten-year period when the federal assault weapons ban, which also limited the size of magazines to ten rounds, was in effect from 1994-2004 and from the years following its expiration powerfully bear this out.

103. Bans on large-capacity magazines can help save lives by forcing mass shooters to pause and reload. Citizens have subdued perpetrators when they paused to reload in at least 20 separate shootings in the United States since 1991, including the December 7th, 1993 shooting of passengers on a Long Island Railroad car,⁷⁵ the October 29th, 1994 shooting near the grounds of

⁷³ See Robert J. Spitzer, *Gun Law History in the United States and Second Amendment Rights*, 80 Law & Contemp. Probs. 55, 68 (2017).

⁷⁴ See 1990 N.J. Sess. Law Serv. 32 (West); Haw. Rev. Stat. Ann § 34–(8); Pub. L. 103–322, § 110103 (Sep. 13, 1994).

⁷⁵ “Death On The L.I.R.R.: The Rampage; Gunman in a Train Aisle Passes Out Death,” *The New York Times*, December 9, 1993; <http://www.nytimes.com/1993/12/09/nyregion/death-on-the-lirr-the-rampage-gunman-in-a-train-aisle-passes-out-death.html> (9-millimeter pistol, 15 round magazine).

the White House,⁷⁶ the May 21, 1998 shooting at Thurston High School in Springfield, Oregon,⁷⁷ and the January 8th, 2011 shooting in Tucson, AZ that targeted U.S. Congresswoman Gabby Giffords.⁷⁸ In many other incidents, targeted victims were able to escape while a shooter reloaded. Perhaps the most vivid illustration of this benefit was seen when at least nine children at Sandy Hook Elementary School were able to escape while Adam Lanza reloaded his 30 round LCM.⁷⁹

104. On April 22, 2018, a man walked into a Nashville Waffle House and opened fire, killing four and wounding seven. The police credited a customer with ending the slaughter when he saw the shooter trying to reload his rifle. The 29-year-old customer “burst out from behind a swinging door where he had been hiding, wrested the weapon away and threw it over a countertop.”⁸⁰ When shooters stop to reload, they can be overtaken by citizens or apprehended by police, and the pause allows would-be victims to escape. The lower the size of the magazine, the more reloading must take place in mass shooting situations.

105. Indeed, an effective ban on high-capacity magazines would likely have significantly reduced the number of deaths and non-fatal gun shot victims at the Las Vegas concert. The *New York Times* video of the 2017 Las Vegas shooting shows how the Las Vegas concert attendees would use the pauses in firing when the shooter’s high-capacity magazines were spent to flee the deadly venue before more shots were fired.⁸¹ If Stephen Paddock had been limited to using only

⁷⁶ “Public Report of the White House Security Review,” Department of the Treasury, 1995 - <http://www.fas.org/irp/agency/ustreas/usss/t1pubrpt.html> (Chinese-made SKS semiautomatic rifle, 30 round magazine).

⁷⁷ When an already wounded student realized the shooter’s 50 round magazine was empty, the student ran 10 to 15 feet and tackled the shooter as he tried to reload his rifle. At that point, other boys helped subdue the gunman as he reached for a handgun in his belt. Jere Longman, “Shootings in A Schoolhouse: The Hero; Wounded Teen-Ager Is Called a Hero,” *The New York Times*, May 23, 1998, <https://www.nytimes.com/1998/05/23/us/shootings-in-a-schoolhouse-the-hero-wounded-teen-ager-is-called-a-hero.html>.

⁷⁸ “Crowd members took gunman down,” *Los Angeles Times*, January 9, 2011; <http://articles.latimes.com/2011/jan/09/nation/la-na-arizona-shooting-heroes-20110110> (9mm Glock handgun, 30-round extended magazine).

⁷⁹ “Legislative Leaders Say Bipartisan Agreement Could Yield Nation’s Strongest Gun-Control Bill,” *The Hartford Courant*, April 1, 2013. <http://www.courant.com/news/politics/hc-gun-deal-newtown-0413-20130401,0,7341094.story> (Bushmaster .223 caliber rifle, high-capacity 30 round magazine). While some contend that 11 children were saved in this fashion at Sandy Hook, Louis Klarevas puts the number at 9 in his book, *Rampage Nation: Securing America from Mass Shootings* (Amherst, NY: Prometheus 2016). p. 22.

⁸⁰ Christopher Mele and Jacey Fortin, “Man Sought in Waffle House Shooting Had Been Arrested Near White House,” *The New York Times*, April 22, 2018, <https://www.nytimes.com/2018/04/22/us/waffle-house-shooting.html>.

⁸¹ Malachy Browne, et al., *10 Minutes. 12 Gunfire Bursts. 30 Videos. Mapping the Las Vegas Massacre*, N.Y. TimesVideo, Oct. 21, 2017, available at <https://www.nytimes.com/video/us/100000005473328/las-vegas-shooting-timeline-12-bursts.html> (last visited Nov. 1, 2017).

10-round magazines during his deadly rampage, potentially hundreds of victims at the concert could have been spared.

106. No one has a greater desire or use for a large-capacity magazine than a determined mass killer. For example, when Nidal Hasan (who killed 13 and injured more than 30 at Fort Hood in 2009) purchased his killing arsenal, he asked for “the most technologically advanced weapon on the market and the one with the highest standard magazine capacity.”⁸² A ban on such magazines is an important tool that governments need in order to address the problem of these increasingly frequent tragedies.⁸³

107. Vermont enacted its LCM limits after a frightening scare at a Vermont high school following the deadly mass school shooting in Parkland, Florida in 2018, as noted by the Vermont Supreme Court:

The Legislature enacted § 4021 in April 2018, in the wake of a threatened mass shooting in Fair Haven, Vermont. See 2017, No. 94 (Adj. Sess.), §§ 8, 11. On February 14, 2018—the same day a mass shooter killed seventeen people in a high school in Parkland, Florida—the Fair Haven Police Department received a report about a possible threat to Fair Haven Union High School. See *State v. Sawyer*, 2018 VT 43, ¶ 5, 207 Vt. 636, 187 A.3d 377 (mem.) The suspect, an eighteen-year-old who had attended the school, reportedly told police that he had planned to commit a mass shooting at the school, that “he wanted to exceed the body count from the Virginia Tech shooting and that he had chosen his ammunition accordingly.” *Id.* ¶ 7. In response to this scare, after extensive debate and testimony, the Legislature passed, and the Governor signed, several gun-control measures as part of Act 94, including the [restrictions on large-capacity magazines] at issue here. See 2017, No. 94 (Adj.Sess.).⁸⁴

108. Since large-capacity magazines are most useful for those bent on mass killing, limiting their availability will have a beneficial effect on a problem that is serious and growing in the United States.

⁸² Scott Huddleston, “Hasan Sought Gun with ‘High Magazine Capacity,’” MySanAntonio.com, October 21, 2010, <http://blog.mysanantonio.com/military/2010/10/hasan-sought-gun-with-high-magazine-capacity/>.

⁸³ Anders Breivik, who committed mass murder in Norway, was aided in his efforts because of lax rules concerning LCM’s in the United States. Breivik was very unhappy that he could not get the large-capacity magazines that he wanted to use since they were banned in Europe. In his manifesto, he wrote about his attempts to legally buy weapons, stating, “I envy our European American brothers as the gun laws in Europe sucks ass in comparison.” Under the section titled, “December and January - Rifle/gun accessories purchased,” Breivik wrote that he purchased ten 30-round ammunition magazines from a U.S. supplier who mailed the devices to him. Stephanie Condon, “Norway Massacre Spurs Calls For New U.S. Gun Laws,” CBS News, July 28, 2011, <http://www.cbsnews.com/news/norway-massacre-spurs-calls-for-new-us-gun-laws/>.

⁸⁴ *Vermont v. Misch*, 2021 VT 10 (2021).

109. In an ideal world, guns would be kept out of the hands of those who would use them for mass shootings, but unfortunately it is very difficult to identify these killers in advance. Therefore, a critical element in trying to stop the death and injury from the growing problem of mass shootings is to limit the killing power of the weaponry available to prospective mass shooters. The value of a ban on high-capacity magazines is that it is easily definable, hard to circumvent through cosmetic changes by gun merchants, and effective at reducing the lethality of mass shooters by limiting the number of bullets that can be fired without reloading.

110. It is my opinion that if, rather than allowing the federal assault weapons ban with its attendant restrictions on large-capacity magazines to lapse in 2004, the country had moved to a more complete ban, mass-shooting tragedies, like the one in Las Vegas, would have been far less frequent and far less deadly and damaging to their victims. It is my opinion that Vermont's LCM restrictions are effectively designed to reduce the likelihood that its citizens and visitors will be killed in mass shootings by making it harder for prospective mass shooters to equip themselves with weapons that are uniquely appealing to their criminal aspirations and uniquely designed to implement their homicidal plans. Meanwhile, there is no evidence that Vermont's LCM restrictions have compromised the safety of law-abiding citizens. This doubtless explains why two-thirds of Americans favor banning high-capacity magazines that can contain more than 10 rounds of ammunition—a more stringent restriction than Vermont's.⁸⁵

Uses of LCMs for Self-Defense are Extremely Rare

111. In the face of the clear evidence from the United States and around the world, Plaintiffs' motion for preliminary injunction overstates the case for LCMs as a means of self-defense. First, it is worth noting that the vast majority of cases, when an individual in the United States is confronted by violent crime, they do *not* use a gun for self-defense. Specifically, over the period 2007-2011, when roughly 6 million violent crimes occurred each year, data from the National Crime Victimization Survey shows that the victim did not defend with a gun in 99.2 percent of these incidents – this in a country with 300 million or more guns in civilian hands.

112. Second, even in the small number of cases where a gun is used for self-defense, the need for an LCM is illusory, because guns are almost never fired in self-defense—as corroborated by decades of statements by NRA-affiliated and pro-gun experts. For example,

⁸⁵ See footnote 8, *supra*.

John Lott has repeatedly stated that “98 percent of the time merely brandishing a gun is enough to cause the criminal to stop his attack.”⁸⁶ Gary Kleck has similarly stated: “Of the ... times citizens use their guns to defend themselves every year, the overwhelming majority merely brandish their gun or fire a warning shot to scare off their attackers.”⁸⁷

113. In other words, a gun is used in self-defense about 0.8 percent of the time when someone is attacked in the United States. In the “overwhelming majority” of the 0.8 percent of cases in which a gun *is* used, brandishing is all that is needed for defense. Given the tiny percentage of cases in which the gun is then fired defensively, the still more minute fraction of cases in which guns are fired more than 10 times becomes vanishingly small. Therefore, Vermont’s LCM limits do not hamper the Second Amendment’s animating value—bearing arms for self-defense—in all but an infinitesimal number of possible scenarios (none of which has ever actually transpired in Vermont). What’s more, nothing in Vermont law prevents law-abiding citizens from carrying multiple magazines and/or multiple guns, effectively increasing the number of rounds available for self-defense. Accordingly, it cannot be seriously maintained that assault weapons and high-capacity magazines play any important role in furtherance of the Second Amendment goal of self-defense. Indeed, if they did, the industry would have marketed them as protection weapons instead of assault weapons – or in the more recent gun-marketing jargon “sporting” or “tactical” rifles.

114. Should there be a future case of a law-abiding citizen who 1) has a gun and 2) the need and opportunity to use it in self-defense, and 3) the desire to fire more than Vermont-permitted number of rounds, the individual can either re-load the defensive weapon by inserting a new clip or by using a second weapon, which an increasingly large number of gun owners currently possess. This implies that the challenged Vermont restrictions, which are designed to limit the mayhem caused by criminals engaging in the most dangerous forms of violent criminal

⁸⁶ John R. Lott, Jr., Packing Protection, Letters, *Chicago Sun-Times*, April 30, 1997, Pg. 52; accord Statements by John R. Lott, Jr. on Defensive Gun Brandishing Posted by Tim Lambert on October 17, 2002 <http://scienceblogs.com/deltoid/2002/10/17/lottbrandish/>. Page 41, State of Nebraska, Committee on Judiciary LB465 (Feb. 6, 1997) (based on “about 15 national survey[s] ... about 98 percent of [defensive gun uses] involve people brandishing a gun and not using them.”); John R. Lott Jr., “Unraveling Some Brady Law Falsehoods,” *Los Angeles Times*, July 2, 1997 (“In 98% of the cases, people simply brandish weapons to stop attacks.”).

⁸⁷ Gary Kleck and Marc Gertz, “Armed Resistance to Crime: The Prevalence and Nature of Self-Defense with a Gun,” 86(1) *Journal of Criminal Law and Criminology* 150-187 (Fall 1995). <https://pdfs.semanticscholar.org/91da/afbf92d021f06426764e800a4e639a1c1116.pdf>.

behavior, are likely to have little or no impact on the defensive capabilities of law-abiding citizens.

115. Moreover, Vermont LCM limits actively protect the safety of family members, neighbors, and others when law-abiding Vermonters use firearms in self-defense. Bullets fired by modern weapons equipped with LCMs will easily penetrate walls, threatening family members or occupants in attached dwellings. This point was dramatically underscored when a concealed carry permit holder attending a gun safety class inadvertently fired his weapon, which discharged a bullet that easily penetrated the classroom wall, striking and killing the owner of the gun store who was working in the next room.⁸⁸ Encouraging untrained, stressed individuals to spray bullets from a high-capacity magazine is a recipe for generating similar unwelcome outcomes that will put family members and neighbors at considerable risk.

Law Enforcement and Military Support for LCM Bans

116. The testimony of United States Attorney (District of Colorado) John Walsh before the Senate Judiciary Committee on February 27, 2013,⁸⁹ is worth quoting:

From the point of view of most law enforcement professionals, a perspective I share as a long-time federal prosecutor and sitting United States Attorney, shutting off the flow of military-style assault weapons and high-capacity magazines is a top public safety priority.

Like military-style assault weapons, high-capacity magazines should be reserved for war, and for law enforcement officers protecting the public.⁹⁰

⁸⁸ Peter Holley, *Ohio gun store owner accidentally killed by student during firearm-safety class*, *Washington Post*, June 19, 2016, available at https://www.washingtonpost.com/news/morning-mix/wp/2016/06/19/ohio-gun-store-owner-accidentally-killed-by-student-during-firearm-safety-class/?utm_term=.ed4c232d20ad (last visited Nov. 1, 2017).

Another example of how doors and walls do not stop bullets from modern handguns occurred on September 13, 2015, when “39-year-old Mike Lee Dickey was babysitting an 8-year-old Casa Grande, Arizona boy. According to police, at about 2 a.m., Dickey was in the bathroom removing his .45-caliber handgun from the waistband of his pants when he unintentionally discharged the gun. The bullet passed through two doors and struck the 8-year-old in his arm while he lay sleeping in a nearby bedroom. The boy was flown to a hospital in Phoenix for treatment.” *8-year-old boy unintentionally shot by babysitter*, *Ohh Shoot*, Sept. 13, 2016, available at <http://ohhshoot.blogspot.com/2015/09/8-year-old-boy-unintentionally-shot-by.html> (last visited Nov. 1, 2017).

⁸⁹Statement of John F. Walsh before the United States Senate Committee on the Judiciary, <https://www.judiciary.senate.gov/imo/media/doc/2-27-13WalshTestimony.pdf> (last visited Nov. 1, 2017).

⁹⁰See, David S. Fallis and James V. Grimaldi, *In Virginia, high-yield clip seizures rise*, *Washington Post*, Jan. 23, 2011, available at <http://www.washingtonpost.com/wp-dyn/content/article/2011/01/22/AR2011012204046.html> (last visited Nov. 1, 2017).

117. A December 2016 editorial in the *Las Vegas Sun* noted the danger presented by—and the lack of practical use for—LCMs:

By overwhelmingly supporting universal background checks for firearms purchases, Clark County voters made it abundantly clear last month that they were concerned about gun violence.

Now, it's time for Las Vegas-area lawmakers to go a step further to protect Nevadans and push to ban the sale of high-capacity magazines in the state. Eight states and the District of Columbia already have imposed such prohibitions, and with good reason. There's simply no legitimate civilian use for magazines that hold dozens upon dozens of rounds of ammunition.

Don't believe us? Fine, then listen to Clark County Sheriff Joe Lombardo. "I'm a very avid hunter, I was in the military myself, and there's no need to have a high-capacity magazine for any practical reason," Lombardo said during a recent interview with the Sun.

To the contrary, the dangers posed by such magazines are obvious. Lombardo says the time it takes for suspects to change magazines gives potential victims an opportunity to escape and law enforcement officials an opportunity to safely fire back. That being the case, the fewer times a shooter has to switch out magazines, the fewer the chances for people to get away and authorities to get a protected shot.⁹¹

The prescience of the editorial was powerfully underscored ten months later when on October 1, 2017, the deadliest mass shooting in U.S. history occurred in Las Vegas (60 killed and hundreds wounded) – only possible because of the use of high-capacity magazines.

118. One of the most disturbing aspects of the recent mass shootings our Nation has endured is the ability of a shooter to inflict massive numbers of fatalities in a matter of minutes due to the use of high-capacity magazines. The devastating impact of such magazines is not limited to their use in military-style assault rifles; they have also been used with horrific results in recent mass shootings involving handguns. The 2007 mass shooting at Virginia Tech involved a shooter using handguns with high-capacity magazines. Similarly, recent mass shootings in Tucson, Arizona; Oak Creek, Wisconsin; and Fort Hood, Texas all involved handguns with magazines holding more than 10 rounds. As evidenced by these events, a high-capacity magazine can turn any weapon into a tool of mass violence.

⁹¹ *High-capacity magazine ban a must for Nevadans' safety*, Las Vegas Sun, Dec. 11, 2016, available at <https://lasvegassun.com/news/2016/dec/11/high-capacity-magazine-ban-a-must-for-nevadans-saf/> (last visited Nov. 1, 2017).

119. Forcing an individual bent on inflicting large numbers of casualties to stop and reload creates the opportunity to reduce the possible death toll in two ways: first, by affording a chance for law enforcement or bystanders to intervene during a pause to reload; and second, by giving bystanders and potential victims an opportunity to seek cover or escape when there is an interruption in the firing. This is not just theoretical: In the mass shooting in Tucson, for example, 9-year old Christina-Taylor Green was killed by the 13th shot from a 30-round high-capacity magazine. The shooter was later subdued as he was trying to reload his handgun after those 30 shots. The outcome might have been different if the perpetrator had been forced to reload after firing only 10 or 15 times, as the Vermont restrictions require.

120. Again, returning to the testimony of United States Attorney (District of Colorado) John Walsh before the Senate Judiciary Committee on February 27, 2013, we learn that:

high-capacity magazines are not required for defending one's home or deterring further action by a criminal. The majority of shootings in self-defense occur at close range, within a distance of three yards. In such a scenario, and at such close ranges, a 10-round magazine is sufficient to subdue a criminal or potential assailant. Nor are high-capacity magazines required for hunting or sport shooting. Like military-style assault weapons, high-capacity magazines should be reserved for war, and for law enforcement officers protecting the public. The continued commercial sale of high-capacity magazines serves only to provide those determined to produce a high body count with the opportunity and the means to inflict maximum damage. Indeed, there is evidence suggesting that when the previous ban was in effect, it reduced the number of high-capacity magazines seized by the police, as well as the lethality of incidents. See, David S. Fallis and James V. Grimaldi, In Virginia, high-yield clip seizures rise, *Washington Post*, Jan. 23, 2011, available at <http://www.washingtonpost.com/wp-dyn/content/article/2011/01/22/AR2011012204046.html> (last visited Nov. 1, 2017).⁹²

Comments on Some of The Plaintiffs' Allegations

121. Some of the comments in the Plaintiffs' Complaint and Motion for Preliminary Injunction misrepresent the relationship between guns, crime, and citizen safety. For example, the statement in Paragraph 10 of the Complaint that the Vermont Legislature has "made law-abiding Vermont citizens more vulnerable to criminal attack by depriving them of commonly-owned ammunition magazines" has no empirical support. Indeed, restricting high-capacity

⁹² Statement of John F. Walsh before the United States Senate Committee on the Judiciary, <https://www.judiciary.senate.gov/imo/media/doc/2-27-13WalshTestimony.pdf> (last visited Nov. 1, 2017).

magazines has the goal and effect of reducing the danger of criminal attack, as noted above, thereby elevating the safety of Vermont citizens.

122. The next paragraph of the Complaint then asserts:

Defensive use of guns by crime victims is common. “Almost all national survey estimates” on the defensive use of guns by victims indicates they “are at least as common as offensive uses by criminals, with estimates of annual uses ranging from about 500,000 to more than 3 million per year, in the context of about 300,000 violent crimes involving firearms in 2008.”

123. As I explained in my chapter in *The Oxford Handbook of Evidence-Based Crime and Justice Policy*, numbers like these

are highly implausible. The largest number of homicides in any year [from 1933 until the time when these numbers were cited] was roughly 25,000, so the idea that private gun use saved anywhere near the quoted numbers strains credulity. Of course, if guns powerfully saved lives in the aggregate, the United States would have a low rate of homicide given its extensive arsenal, but instead we have homicide rates vastly higher than other affluent nations.⁹³

124. Indeed, the unpublished survey by William English that the Plaintiffs rely on provides unrealistic numbers contradicted by the far superior survey evidence of the NCVS. Hemenway and Solnick (2015) further highlight why the simple surveys that invite respondents to report if they have used a gun for self-defense are inherently unreliable, while the more professional, vastly larger, and more tailored approach of the NCVS is far more likely to generate meaningful data on defensive gun use. For this reason, the English survey, which claims that there are between 1.67 million to 2.8 million defensive gun uses per year should be disregarded.

125. The devastating critique by Hemenway and his coauthors is more than sufficient to dispel the English survey. *See also* [David Hemenway, The Myth of Millions of Annual Self-Defense Gun Uses: A Case Study of Survey Overestimates of Rare Events, Chance Vol 10 Issue 3 \(1997\)](#). Furthermore, English’s methodology reflects additional fatal flaws. For example, he asked individuals how many times they used a gun over their entire life to defend against crime

⁹³ Donohue, “Applying What We Know and Building an Evidence Base: Reducing Gun Violence,” 2023, in Brandon C. Welsh, Steven N. Zane, and Daniel P. Mears, eds., *The Oxford Handbook of Evidence-Based Crime and Justice Policy*.

and divided that number by 30, which he claims is the average number of adult years in his survey. But his survey was conducted in early 2021, so at least half of his respondents referred to actions taken when crime was vastly higher than it was today. Violent crime fell by roughly 80 percent from 1994 – 2021, so even if the numbers were accurately reported – which the NCVS data refutes -- they would have little bearing on current conditions.⁹⁴

126. Returning to my chapter in *The Oxford Handbook*:

The best evidence on the percentage of crimes in which a victim does use a gun defensively is less than 0.9% of the time that victims are confronted by criminals. Interestingly, ... the NCVS data revealed an identical but extremely low percentage of defensive gun uses for both 1992-2001 as well as for 2007-2011. This constant and low percentage is telling because it shows that as RTC [right-to-carry gun] laws expanded greatly across the nation, there was absolutely no increase in the likelihood that a potential victim would defend against crime with a gun. Specifically, in the first period from 1992 to 2001, 41% of the population lived in states with RTC (or permitless carry) laws. By the second period, this percentage had jumped to 67%—a 63% increase in the proportion of the country living in RTC states. And yet this massive increase in gun carrying did nothing to elevate the overall likelihood of defensive gun use, which was at exactly the same low rate it had been in the earlier period.⁹⁵

127. Next, while the Complaint alludes to some museum-piece weapons that could fire a number of rounds without reloading, these weapons had no relevance to warfare or personal defense in 1791. It is widely recognized that “Early firearms were expensive. They were complicated. They required extensive training to use, and they were very slow to load.”⁹⁶ Moreover, “The flintlock musket was the most important weapon of the Revolutionary War. It represented the most advanced technological weapon of the 18th century. Muskets were smooth-bored, single-shot, muzzle-loading weapons. The standard rate of fire for infantrymen was three shots per minute.” With this type of weaponry, there would be absolutely no concern

⁹⁴ The NCVS indicates that in 1994 there were 80 violent crimes per 1000 population (age 12 and older) and only 16.5 violent crime per population in 2021, the year of the English survey – a drop in the rate of violent crime of 79.4 percent. Bureau of Justice Statistics, “[NCVS Data Dashboard](#),” (visited February 2, 2024).

⁹⁵ Donohue, “Applying What We Know and Building an Evidence Base: Reducing Gun Violence,” 2023, in Brandon C. Welsh, Steven N. Zane, and Daniel P. Mears, eds., *The Oxford Handbook of Evidence-Based Crime and Justice Policy*.

⁹⁶ “Learn about American Revolutionary War usage of muskets, bayonets, and gunpowder,” *Britannica* <https://www.britannica.com/video/195113/gunpowder-muskets-American-Revolution>.
Jack Rakove, “The Justices Are Bad Gun Historians”

about a lone gunman blasting away at unsuspecting crowds with the lethal and tragic effect that even teenage mass shooters increasingly inflict in seconds or minutes in modern America.

128. As one of the greatest historians of Colonial America – Jack Rakove, Pulitzer-Prize Winning Historian, and Coe Professor of History and American Studies, Stanford University – indicated in discussing this issue:

[C]onsider whether restrictions on military-style weapons like the AR-15 or large-capacity magazines are consistent with the country’s historical regulation of firearms. Opponents of these restrictions argue that antecedents of these powerful weapons existed in the founding era and were not regulated, which means that restrictions should not be imposed today.

But the analogy is fallacious. As historian Brian Delay of the University of California, Berkeley, has noted, 18th- and 19th-century efforts to produce large-capacity firearms rarely succeeded, and none of these ingenious experiments were ever produced in large numbers. Some of these weapons have survived in museums as curiosities— isolated examples of mechanical ingenuity—but not because they were commonly used. And that is precisely why governments saw no need to regulate them.

A deeper historical problem is that our modern assumptions about the protective value of firearms presuppose facts that the adopters of the Second Amendment would not have shared. As Randolph Roth, the leading historian of American homicide, has demonstrated, firearms were not the weapon of choice for anyone needing to protect himself or his family from some imminent danger. The primitive guns of the founding era were unreliable and hard to use. Only in the late 19th and early 20th century would revolvers and then semi-automatic weapons acquire their terrifying effectiveness.⁹⁷

129. Any suggestion that 18th Century weaponry in civilian hands could impose anywhere near the risk to the public of the modern assault weapon is simply absurd on its face. Figure 11 highlights the gaping distance between an assault rifle equipped with a large-capacity magazine and the weapons available to citizens at the time of the adoption of the Second Amendment.

⁹⁷ Jack Rakove, “[The Justices Are Bad Gun Historians](#),” *The Wall Street Journal*, November 4 - 5, 2023.

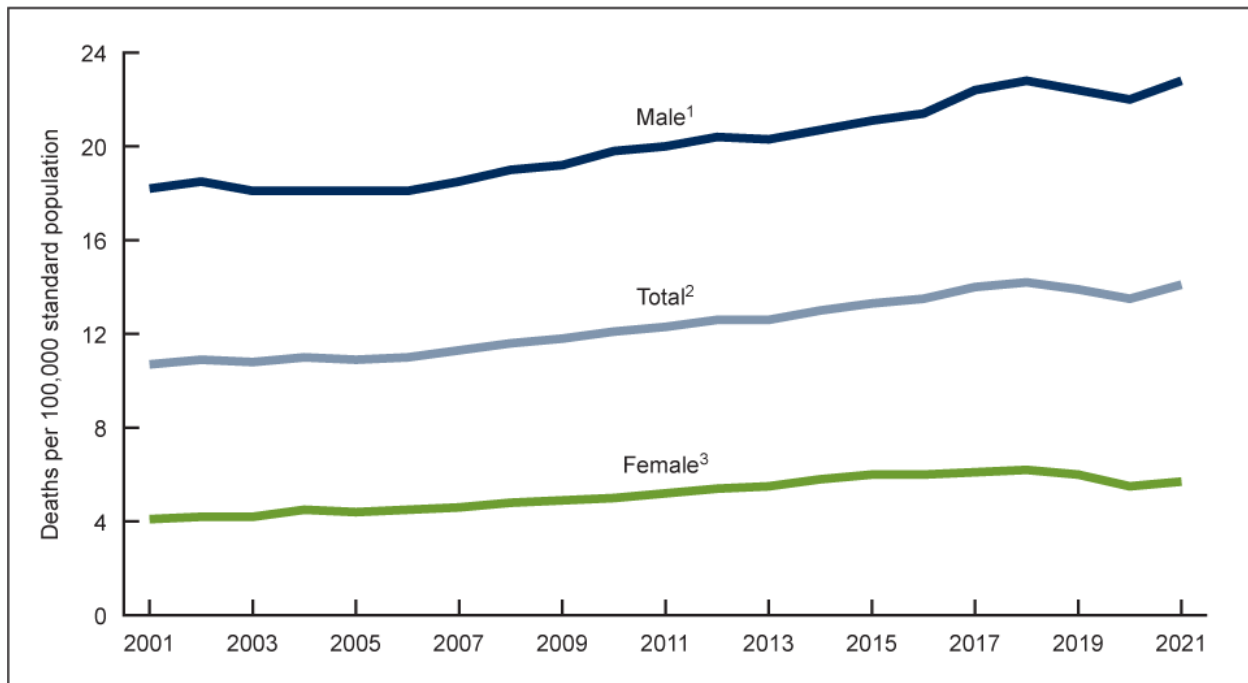
Figure 11

A musket from the 18th century, when the Second Amendment was written, and an assault rifle of today.
 Top, MPI, via Getty Images, bottom, Joe Raedle/Getty Images.

Waiting Period Laws Clearly Save Lives

130. Strong empirical evidence shows that Vermont’s 72-hour waiting period for acquiring firearms is a reasonable measure that will reduce the number of suicides. There can be no doubt that suicide is a serious and growing problem. About a quarter of the American adult population in 2022 struggles with mental illness -- a rate that has grown by nearly 25% since [2012](#). At the same time, the number of Americans who [died at the hands of a firearm](#) also increased a staggering 44% between 2012 and 2022, up to 48,222 people. Importantly, firearm suicide remains the leading cause of firearm deaths in the US. Of the 48,222 firearm deaths in 2022, nearly 60% were suicides. Of the [49,513](#) Americans who died by suicide in 2022, 27,040 used a firearm. The tragic pattern of increasing overall suicide rates – adjusted for the age of the population – is well illustrated in this [graphic from the CDC](#).

Figure 1. Age-adjusted suicide rates, by sex: United States, 2001–2021



¹No statistically significant trend from 2001 through 2006; significant increasing trend from 2006 to 2018; no statistically significant trend from 2018 through 2021, $p < 0.05$. The rate in 2021 was significantly higher than the rate in 2020, $p < 0.05$.

²No statistically significant trend from 2001 through 2006; significant increasing trend from 2006 to 2018, with different rates of change over time; no statistically significant trend from 2018 through 2021, $p < 0.05$. The rate in 2021 was significantly higher than the rate in 2020, $p < 0.05$.

³Significant increasing trend from 2001 to 2017; significant decreasing trend from 2017 through 2021, $p < 0.05$. The rate in 2021 was significantly higher than the rate in 2020, $p < 0.05$.

NOTES: Suicide deaths are identified using *International Classification of Diseases, 10th Revision* underlying cause-of-death codes U03, X60–X84, and Y87.0.

Age-adjusted death rates are calculated using the direct method and the 2000 U.S. standard population. Access data table for Figure 1 at:

<https://www.cdc.gov/nchs/data/databriefs/db464-tables.pdf#1>.

SOURCE: National Center for Health Statistics, National Vital Statistics System, Mortality.

131. There is little doubt, then, that this ominous trend would both be a subject for substantial public policy concern and a significant justification for state action to try to reduce the alarming and rising death toll from suicide. Examining data from 1977-2014, a 2017 study concluded that waiting period laws reduced suicides by 7.4 percent and had no impact on non-gun suicide.⁹⁸ Reducing the 27,040 gun suicides in 2022 by this percentage would save 2001 lives. In other words, a waiting period alone would save more lives by a wide margin than any plausible estimate of the impact of all defensive gun use across the nation.⁹⁹

⁹⁸ See Luca, Michael, Deepak Malhotra, and Christopher Poliquin. 2017. "Handgun waiting periods reduce gun deaths." *PNAS*, 114(46): 12162–12165, Table 1, column 3.

⁹⁹ Another study that examines the link between waiting periods and suicide is Edwards, Griffin, Erik Nesson, Joshua Robinson, and Frederick Vars. 2017, "Down the Barrel of a Loaded Gun: The Effect of Mandatory Handgun

132. My own recent research (with my coauthors) has examined the impact of firearm waiting period (or “purchase delay”) laws on suicide by adults (those over 21) for the period from 1987-2019.¹⁰⁰ Our analysis considered the full range of state waiting period laws as well as a federal waiting period law that went into effect in 1994 when [the Brady Act](#) established a 5-day waiting period on some firearm transactions in certain states and then ended in 1998. We find that these laws – even when they delay gun purchases for as little as 48 hours – are able to disrupt suicidal ideation and thereby significantly decrease firearm suicides. Specifically, we estimate that waiting period laws reduce suicides by 21-34 year olds by 6.1 percent.

131 Moreover, a [study](#) of suicides in Illinois between 2005 and 2010 show that the circumstances surrounding and risk factors contributing to suicide differ substantially by age group. School problems are a major contributor to youth suicide. Employment problems and alcohol dependence are most common among middle aged people who die by suicide. Indeed, our study shows that waiting period laws are particularly impactful at preventing suicide among younger adults because suicidality is often more impulsive for this group. If a particularly lethal mechanism like a gun is readily available, many with what could be a merely passing moment of despair will end up committing suicide when a lapse of time would be enough to dissuade them from such an irreversible action.

134. Given the array of benefits that flow from firearm waiting period laws, it is not surprising that Americans consistently and overwhelming support the adoption of these laws. The latest Gallup Poll inquiring into this support found that 77 percent of American adults favor “Enacting a 30-day waiting period for all gun sales.”¹⁰¹ This support evokes the famous statement by former U.S. Supreme Court Chief Justice Warren Burger who was asked on the 200th Anniversary of the Bill of Rights if he supported a proposed five-day

Purchase Delays on Homicide and Suicide.” *The Economic Journal*, 128(616): 3117–3140. This study is based on a slightly shorter data period than Luca, Malhotra, and Poliquin, using 1990-2013, and it again finds that waiting period laws lead to a statistically significant 2-5 percent reduction in the rate of firearm suicide.

¹⁰⁰ John J. Donohue, Samuel V. Cai & Arjun Ravi, “Age and Suicide Impulsivity: Evidence from Handgun Purchase Delay Laws,” NBER Working Paper 31917 (2023), <https://www.nber.org/papers/w31917>.

¹⁰¹ This Gallup Poll result from a survey conducted over the period June 1-20, 2022, mimicked previous Gallup Poll results. <https://news.gallup.com/poll/1645/guns.aspx>.

federal waiting period for gun purchases. Burger replied that “I am very much against it. It should be 30 days waiting period....”¹⁰²

133. Burger emphasized that additional time to evaluate gun purchasers could be effective in reducing the risk of substantial firearm violence. Indeed, in the horrific Charleston, South Carolina church shooting of June 17, 2015, we saw how prescient Burger was. On that date, Dylann Roof, who had patiently waited until his 21st birthday to buy a gun, fired a total of approximately 77 rounds at the Emanuel African Methodist Episcopal Church in Charleston, killing nine people during a Bible study session.¹⁰³ Had federal law allowed a full investigation of Roof’s background they would have realized he was a prohibited purchaser, and his ability to purchase a gun would have been curtailed. Unfortunately, federal law did not mandate the completion of the background check, which enabled Roof to buy the weapon he used for the mass killing.

134. The events of March 16, 2021, when an unhinged 21-year-old killed eight in Atlanta, further underscore the wisdom of Burger’s remarks. The shooter had legally bought a 9-millimeter handgun in a gun shop on the very day of the shooting — so that he could commit mass murder. Thankfully, when police released a picture of the assailant from video footage, his parents contacted authorities, leading to his capture before he achieved his intended goal of killing more in Florida.¹⁰⁴ How much better for all involved if he had not been able to buy a gun in the first place? A waiting period would have provided an opportunity for the shooter’s immediate mental health crisis — he had just been thrown out of his home by his parents — to pass, potentially saving many lives.

¹⁰² Warren Burger discussing the Second Amendment on its 200th Anniversary on the MacNeil/Lehrer News Hour, December 16, 1991, at minute 1:12. <https://www.youtube.com/watch?v=hKfQpGk7KKw>.

¹⁰⁴ Kate Brumback, *Atlanta-Area Shootings Leave 8 Dead, Many of Asian Descent*, WHYY (Mar. 16, 2021), <https://whyy.org/articles/georgia-massage-parlor-shootings-leave-8-dead-man-captured>.

CONCLUSION

137. The problem of mass shootings in the United States is socially damaging and growing worse. Indeed, this problem will only be exacerbated if appropriate limitations on the lethality of weaponry, such as the restrictions on high-capacity magazines that were initially adopted as this dire social harm first emerged as part of federal law from 1994 – 2004 and then subsequently enacted by the state of Vermont, are not sustained as constitutionally permissible measures.

138. The growing problem of needless and avoidable death from firearm suicide will also be exacerbated if Vermont's prudent waiting period restrictions on the purchase of firearm are not sustained. These purchase delay laws likely reduce the risk of mass shootings, which only further underscores their value in protecting the health and safety of the citizens of the state of Vermont from firearm violence.

**DECLARATION UNDER PENALTY OF PERJURY
PURSUANT TO 28 U.S.C. § 1746**

I declare that the foregoing is true and correct under penalty of perjury under the laws of the United States.

Executed on February 5, 2024

A handwritten signature in black ink, reading "John J. Donohue III". The signature is written in a cursive style with a horizontal line at the end.

John J. Donohue